

and other liabilities incurred by the SOE during the lease period include salaries, pension expense, other operating costs, and environmental liabilities.

- Should the lessor conclude that the lessee business plan is not being adhered to which would include but not be limited to:
 - Failure to maintain Property Plant and Equipment
 - Misappropriation of assets or income
 - Abandonment of business plan
 - Other purposeful action by management that is counter to the interests of the SOE

The lessor has the right to terminate the lease and the lessee's deposit will be forfeited

- Lease payments will be made no less than on a quarterly basis
- The lessee will not withdraw funds including compensation and other payments to owners, or otherwise reduce, its net investment below 25% of the SOE valuation during the lease period. However, lease payments may be made from SOE profits.
- If lessee fails to make two lease payments, the lessor can either implement a penalty clause equal to one lease payment or to terminate the lease.
- If the lease is terminated due to the failure of the lessee to make lease payments, all previous payments are forfeited by the lessee
- Any individual who owns 10% or more, or a group of individuals who together will own 50% or more, of the ultimate ownership of the lease must provide guarantees of the unmade lease payments proportional to their ownership interest in the SOE upon transfer of ownership
- A dispute resolution mechanism, preferably arbitration, will be part of the agreement
- Standard affirmative and negative covenants typical of a senior asset-based loan agreement will be included in the agreement and will include but not be limited to:
 - No liens, transfer or abandonment of SOE assets
 - All Iraqi laws will be adhered to including labor and environmental laws
 - Standard anti conflict provisions
 - The company can't make loans
- The lessee will maintain proper insurance during the lease period
- No single customer credit (or aggregate of affiliates) can exceed 10% of the appraised value of the business
- The lease is not assignable without the approval of the lessor



The principles of lease contract agreement shown above relate to standard procedure. If the SOE is relatively large, complex and operational these principles are appropriate as a framework for working out the contract agreement. If the SOE is partly destroyed, looted, non or only partly operational, some requirements, especially concerning detailed business plan should be soften.

The content of the binding offer

Below there is a standard version of the content of the binding offer to lease the Company. Further on we will point out how this version might be squeezed in case of SOEs suited for limited procedure:

A. Content of the substantive binding offer

Formal Section

Basic information concerning the Potential Lessee

The formal part of the Offer should contain basic information concerning the Potential Lessee, i.e.:

- a) information about the Potential Lessee: company name, seat, address, telephone, fax number, e-mail (as well as of the directly and indirectly dominant entity in relation to the Potential Lessee);
- b) Current excerpt from the appropriate register of the Potential Lessee. A current excerpt will be regarded as a document dated not more than 3 months before the deadline for submission of offers;
- c) A list persons duly authorised to act on behalf of the Potential Lessee, together with a document confirming powers of those persons to represent the Potential Lessee or powers of attorney to act on behalf of the Potential Lessee;
- d) List of financial, legal and/or other advisors working on the submission of the Binding Offer;
- e) The last audited balance sheet and profit/loss account of the Potential Lessee for the full financial year, together with the auditor's report;
- f) Declaration concerning a lack of tax arrears issued in accordance with the laws of the Lessee's country of origin.

In the event of the offering parties being foreign entities, documents presented and compiled in a foreign language should be translated into Arabic by a sworn translator.

The above documents which have already been included in the initial offer do not have to be submitted again, but should be cited in the Binding Offer. In cases where documents submitted in the Initial Offer were issued more than 3 months from the date of submitting Initial Offers, current documents should be submitted or a declaration provided by duly authorised persons, stating that the actual state presented in the previously submitted specified documents has not changed.

Substantive section

The substantive section of the Binding Offer should contain a description of the activities conducted by the Potential Lessee, including:

- a) a description of the ownership structure of the Potential Lessee (and its parent company) and the characteristics of its main shareholders/stakeholders;
- b) a description of the structure and area of activities of the Potential Lessee with particular attention to its capabilities and experience relevant to the scope of activities of the Company;
- c) a description of the structure and area of activities of the Potential Lessee's parent companies and companies within the same capital group as the Potential Lessee;
- d) financial information concerning the Potential Lessee (or other entities) for the period of the last 3 years (balance sheets, profit & loss account, and cash flow reports);
- e) the development strategy of the Potential Lessee in Iraq in the industry where The Company operates within that strategy (including the strategy of the capital group, of which the Potential Lessee is a member or the dominant entity)

The above documents which have already been included in the initial offer do not have to be submitted again, but should be cited in the Binding Offer and a declaration of duly authorised persons should be provided, stating that the actual state presented in the previously submitted documents and presented information has not changed.

- f) assumptions of the proposed development strategy of the Company and envisaged investment programme.

Information is expected concerning the material scope of the investment programme covering among other procurements and modernisation of fixed assets, transfer of technologies and know-how, introduction of information systems, etc.

Potential Lessees should take into account that the Ministry places significant weight on the degree of engagement of the Lessee in the future of the Company, which should be mirrored in the investment programme.

- g) scope, level and method of realising (time schedule, sources and form of finance) investment commitments in Iraqi Dinars;
- h) declaration that the Potential Lessee intends to maintain ownership of shares in Company over the longer term;
- i) justification of the lease transaction of the Company specifying the future degree of engagement of the entity submitting the Binding Offer. It is expected that entities submitting Binding Offers present arguments in favour of them being entrusted with the role of Lessee in the Company.
- j) validity of the offer (not less than 90 days);
- k) proposed solutions in the area of social packages for employees of the Company (length of employment guarantees, redundancies, severage payment scheme, wage and bonus system, social benefits, training);
- l) undertaking of the Potential Lessee to maintain the Company's identity;

- m) Information concerning permissions and approvals that the entity submitting the Binding Offer must obtain for the purpose of concluding the transaction with the Ministry; the Binding Offer should contain details about any internal and external approvals that the Lessee must gain for the purpose of concluding the lease transaction of the Company. It is expected that the Lessee will present the course and time schedule for obtaining such approvals;

Lessees should also include a statement in the Binding Offer that they are not aware of any other barriers of a legal or other nature apart from those specified above, which could constitute an obstacle to concluding a transaction.

- n) A list of other significant issues, which the Lessee would like to include in possible additional investigation at the negotiation stage. An Lessee submitting a Binding Offer may specify a list of the most significant issues, which he would like to explain and in addition analyse during negotiations;
- o) Declaration concerning the validity of provisions in the Initial Offer. The Binding Offer should contain the statement that those provisions of the Initial Offer which have not been changed or supplemented in the Binding Offer become part of the Binding Offer;
- p) Other data, which in the opinion of the Potential Lessee could be of significance when assessing the offer;
- q) Name, father's name and surname and contact details of the Project Manager on the part of the Potential Lessee or persons duly authorised by the Potential Lessee, to whom questions should be directed regarding the Binding Offer.

The Ministry reserves the right to demand submission of additional explanations, documents and information by entities that have submitted a Binding Offer.

B. Content of the Final Price Offer (separate document)

The final proposal to lease the Company, should contain:

- a) The value of the Company the Potential Lessee is willing to accept as the basis to calculate the payments scheme
- b) The period of lease
- c) The payments time schedule
- d) The interest
- e) sources of finance for the acquisition of shares;
- f) documented ability of the Potential Lessee to fulfil the financial obligations undertaken in the agreement- the offer should contain appropriate guarantees/warranties from entities (companies/banks/other financial institutions) on the basis of which the the Ministry will be convinced of there is no risk of the Potential Lessee not fulfilling the undertaken obligations.

The binding offer should be of a binding and unconditional nature.

The binding offer should contain a completed version of an Agreement to purchase shares in the Company prepared by the Lessee, based on the draft share sale Agreement supplied by The Advisor S.A. which fully complies with the offer of the Potential Lessee. The agreement should be initialled by persons duly authorised to act on behalf of the Potential Lessee on each page and should be enclosed with a covering letter.

All documents relating to the procedure, which are aimed at the sale of shares in the Company should be submitted in Iraqi and English



Standard procedure and standard content. In case of simplified track, with binding offer only the Ministry should consider combining some of the elements of initial offer presented earlier with some elements shown above.

The procedure of submission of binding offers and further steps

The Potential Lessees that have by decision of the Ministry qualified to the next stage of the transaction process of the lease of the Company ending with the submission of Binding Offers, and which continue to be interested in lease transaction of the Company should be informed not only how the binding offer must look like but also about the procedure of its submission.

The deadline for submitting, binding offers must be given to the Potential Lessees stating day, hour and exact place where to place the offers. The binding offers should be prepared in Iraqi and English on A-4 paper, signed by a person duly authorised to represent the Potential Lessee. To enable to read the offers by more people and keeping in secret the most sensitive information – financial offer, the whole binding offer may be submitted in sealed envelopes in two parts:

- I. Substantive offer- in five counterparts (one original and four copies);
- II. Price Offer – in one original copy.

The price offer may be submitted in a separate, stamped and sealed envelope with the inscription – “**Binding financial offer for the lease of the Company X - do not open**”). The substantive offer (five copies) should be submitted in a sealed envelope marked- **Binding substantive offer for the lease of the Company X - do not open**“

The Potential Lessees should also obtain very clear message the binding offers submitted after the deadline specified in the special letter describing the required content of the binding offer and procedure of submitting it will be returned unopened.

The Ministry should also inform that it reserves the right to:

- reject Firm Offers without giving reasons;
- demand submission of additional explanations, documents and supplementary or explanatory information concerning the text of submitted Firm Offers;
- not to engage in negotiations;
- freely choose Potential Lessees with whom it will engage in negotiations concerning the sale of shares in the Company;
- withdraw from negotiations or modify procedures;
- extend the deadline for submitting Binding Offers without giving reasons;
- not to inform Potential Lessees submitting Binding Offers about the motives of its decisions.

The Ministry should inform each of the interested parties that has submitted a Binding Offer about the results of its offer appraisal.

Finally, the Potential Lessees should be informed briefly about the next steps of the transaction process: negotiations, granting exclusivity, possible unlimited due diligence, signing the conditional or unconditional lease contract agreement.



Substantial part of the elements described above might be used both in standard and simplified procedure

Final stage of transaction

Having binding offers, the Ministry should decide whether wants to negotiate with all bidders who submitted their binding offers or to exclude some of them at this stage.

Usually the subject of negotiations at this stage of transaction includes:

1. remaining legal issues of the lease contract agreement
2. parameters of financial offer
3. social and employment issues
4. potential lessee's business plan
5. other issues

In fact, only at this stage the real negotiations begin. The Ministry has much better than before documented and detailed offers. They can be compared to each other, assessed and negotiated.

We would like to pay attention on two issues: financial and business credibility of potential lessee and parameters of its financial offer. As for financial and business credibility of potential lessee, the Ministry should be absolutely convinced that both these elements are of the high quality. Otherwise the whole long-term lease program could endangered.

As for parameters of financial offer, there are following elements to be negotiated:

1. The value of the Company the Potential Lessee is willing to accept as the basis to calculate the payments scheme
2. first downpayment equalled to at least 25%
3. The period of lease
4. The payments time schedule
5. The interest

The value of the Company and the period of lease will be subject to negotiations.

Except the biggest and most complex SOEs, we suggest to adopt relatively simple financial parameter structure. That means 25% of downpayment, four payments a year throughout the whole lease period, no grace period, low interest.

Low interest could mean e.g. 75% of rediscount rate but at the moment there is no rediscount rate used in Iraqi banking system. Therefore we suggest using interest equalled to 75% of the interest of Iraqi one year Treasury bills which is now around 6%.

Second round of negotiations

The dates of negotiations (particular meetings) and their location will be agreed between the Ministry and the Potential Lessee.

The Ministry can hold negotiations separately with each Potential Lessee, with a number of Potential Lessees or all of them simultaneously. The Ministry can at any time, for any reason and without giving reasons, suspend or halt negotiations with a Potential Lessee. The Ministry can exclude a Potential Lessee from the negotiating process, including in cases where its representatives, employees or advisors breach the interests of the Ministry or the Company during participation in the process.

Negotiations will be held solely and exclusively in Iraqi, it is the responsibility of the Potential Lessee to ensure the services of a sworn translator.

Granting the exclusivity and final negotiations

In some more complex transactions, after second round of negotiations with short listed bidders, the Ministry can give to one of them so called negotiation exclusivity linked sometimes with unlimited access to the Company. The aim is to get the best price, to liquidate the worries of the Potential Lessee that limited due diligence did not reveal all issue having potential negative impact on the value of the Company. Exclusivity is given for a given time, usually not longer than 3-4 weeks. If the

Potential Lessee fails to reach agreement with the Ministry within this timeframe, the other bidder comes.



Exclusivity is only the element of standard approach

Signing and closing the contract

Having completed successfully the negotiations the lease contract agreement can be signed by both parties: the Ministry and the Lessee. Sometimes signing the contract can mean also the Closing, i.e. the first downpayment given to the Ministry and simultaneous transfer of the formal powers to run the Company. Sometimes however the Signing and the Closing are separated in time. That separation results from necessity of obtaining by the Lessee some special permissions from other than the Ministry government entities. For example, Anti Monopoly Commission may have the veto power. If such such a situation happens, the contract should be conditional, i.e. comes into force when and if the condition is met.

DATED 2003

(1) [THE [] MINISTRY]

AS THE OWNER

(2) []

AS THE LESSEE

(3) []

AS GUARANTOR

LEASE TRANSFER AGREEMENT

Doc No. 2601953

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This is a LEASE AGREEMENT, (the "Agreement") dated as of [], between (1) [The Ministry or other owner] (the "Owner"), having an address at [], (2) [], a company recognized under the laws of [] (the "Lessee"), having an address at [] and (3) [], a company recognized under the laws of [] (the "Guarantor"), having an address at [] (the Owner, the Lessee and the Guarantor, each a "Party" and together the "Parties").

Whereas the Owner has conducted a valuation of the Company and the Lessee has submitted to the Owner and the Owner has approved the Business Plan (as defined below),

Whereas the Owner wishes to lease and subsequently transfer ownership of and the Lessee wishes to operate the Business and to assume ownership of the Company,

Whereas the Guarantor[s] being [an individual owning ten percent (10%) or more of the ultimate ownership of the Lessee] [a group of individuals who together own fifty percent (50%) or more of the ultimate ownership of the Lessee] who wish[es] to guarantee the payment of the Rental Payments (as defined below),

Now, therefore, in consideration of the mutual covenants, representations, warranties and agreements contained in this Agreement and intending to be legally bound, the Parties agree as follows:

ARTICLE I

DEFINITIONS

Section 1.1 Specific Definitions.

The meaning of terms used in this agreement are as set out in Exhibit 1 to this Agreement.

ARTICLE II

LEASE OF THE BUSINESS ASSETS, GUARANTEE

Section 2.1 Lease of the Company.

a) In consideration of the payments and covenants herein stipulated to be paid and performed, the Owner hereby lets to the Lessee, and the Lessee hereby lets from the Owner, commencing on the Commencement Date for the Term herein described, the shares of capital stock of the Company described on Annex __ (the "Shares"), all upon the terms and conditions herein specified.

b) At the Commencement Date, the Lessee shall assume and agree to pay, perform or otherwise discharge when due, in accordance with their respective terms and subject to the respective conditions thereof, all liabilities relating to the

Company, including without limitation, (a) the land described in Part 1 of Annex ___ hereto including all buildings, structures and other improvements constructed and to be constructed thereon (including all building equipment and fixtures) and all easements, rights and appurtenances relating thereto, (and all other buildings, structures and other improvements constructed and to be constructed thereon (including all building equipment and fixtures) and all easements, rights and appurtenances relating thereto acquired, owned or created directly or indirectly by or on behalf of the Company subsequent to the Commencement Date, the "Property"), and (b) the assets described in Part 2 of Annex ___ hereto including all plant and equipment on the Property; and (ii) (and all other assets acquired or created directly or indirectly by or on behalf of the Company subsequent to the Commencement Date, the "Assets" and, together with the Property, the "Business Assets"), and all liabilities arising from or relating thereto.

Section 2.2 Title and Condition.

The Shares are let and ownership of them is transferred subject to (i) the existing state of the title as of the Commencement Date, (ii) any state of facts which an accurate survey or physical inspection thereof might show, (iii) all zoning regulations, restrictions, rules and ordinances, building restrictions and other laws and regulations now in effect or hereafter adopted by any governmental authority having jurisdiction, and (iv) the condition of any buildings, structures and other improvements located thereon, as of the commencement of the Term of this Agreement, without representation or warranty by the Owner. The Lessee represents that it is in possession of the Business Assets, has thoroughly familiarized itself with the Business Assets in all respects and has examined the title to, zoning and other restrictions applicable to and the condition of the Business Assets and has found the same to be satisfactory to it.

Section 2.3 Use of Business Assets.

Subject to applicable Legal Requirements, the Lessee may use the Business Assets only for the purposes of the Business and as set out in the Business Plan.

Section 2.4 Rights of Lessee.

a) The Lessee may, in accordance with the Business Plan and subject to all applicable zoning, environmental and other safety laws of Iraq in force from time to time, construct upon the Property buildings, structures and other improvements.

b) Subject to the terms of this Agreement, the Lessee may receive the benefit of all invoice billings generated by the Company and its subsidiaries.

Section 2.5 Term.

a) Subject to the terms and conditions hereof, the Lessee shall have and hold the Business Assets for a term of [] years (the "Term") commencing on the Commencement Date, unless this Agreement shall be sooner

terminated pursuant to the terms hereof.

b) This Agreement shall not terminate, nor shall the Lessee have any right to terminate this Agreement, nor shall the Lessee be entitled to any abatement of rent, nor shall the obligations of the Lessee under this Agreement be affected, by reason of any of the following; (i) any damage to or destruction of all or any part of the Business Assets from whatever cause; (ii) the taking of the Business Assets or any portion thereof by condemnation, requisition or otherwise; (iii) the prohibition, limitation or restriction of the Lessee's use of all or any part of the Business Assets, or any interference with such use; (iv) the Lessee's acquisition or ownership of all or any part of the Business Assets otherwise than as expressly provided herein; (v) any default on the part of the Owner under this Agreement, or under any other agreement to which the Owner and the Lessee may be parties; (vi) the failure of the Owner to deliver possession of the Business Assets on the commencement of the Term; or (vii) any other cause whether similar or dissimilar to the foregoing, any present or future law to the contrary notwithstanding. It is the intention of the Parties hereto that the obligations of the Lessee hereunder shall be separate and independent covenants and agreements, that the Rental Payments and the Additional Payments shall continue to be payable in all events and that the obligations of the Lessee hereunder shall continue unaffected, unless the requirement to pay or perform the same shall have been terminated pursuant to an express provision of this Agreement.

c) The Lessee agrees that it will remain obligated under this Agreement in accordance with its terms, and that it will not take any action to terminate, rescind or avoid this Agreement, notwithstanding (i) the dissolution, reorganization or winding-up or other proceeding affecting the Owner or its successors in interest or (ii) any action with respect to this Agreement which may be taken by any trustee or receiver of the Owner or its successors in interest or by any court in any such proceeding.

Section 2.6 Payment.

a) The Lessee covenants to pay to the Owner as rent for the Shares during the Term of this Agreement, the amounts and at such times set forth on Annex 2.5 hereto (the "**Rental Payments**"), by wire or other electronic transfer of immediately available funds to the Owner at the address set forth above and/or to such other person or such other place or account as the Owner from time to time may designate to the Lessee in writing.

b) The Lessee covenants that all other amounts, liabilities and obligations which the Lessee assumes or agrees to pay or discharge pursuant to this Agreement together with every fine, penalty, interest and cost which may be added for nonpayment or late payment thereof in accordance with this Agreement, shall constitute Additional Payment hereunder (the "**Additional Payments**").

c) The Rental Payments and Additional Payments shall be paid by Lessee in accordance with the terms hereof without notice or demand (except as expressly provided herein with respect to notices and demands), setoff, counterclaim, abatement, suspension, deduction or defense.

d) If the Lessee and the Guarantor shall fail to make any two consecutive Rental Payments and such failures shall have continued for 5 Business Days since the second applicable due date pursuant to the terms of this Section 2.6 , the Owner may at its sole discretion elect either (i) to treat such failures to pay as an Event of Default pursuant to Section 7.1 below, or (ii) demand and the Lessee shall immediately pay a penalty payment equal to the second Rental Payment then outstanding in addition to the Rental Payments then due.

Section 2.7 Transfer of Ownership.

a) Subject to Section 7.1 , ownership of the Shares and the Company will be transferred to the Lessee, in their then existing state and condition, (i) at any time during the Term of this Agreement by the payment of all Rental Payments remaining due, any Additional Payment then outstanding, including the sums set out in section 2.7(c) below; and (ii) at the expiration of the Term of this Agreement on the payment of the last Rental Payment and any Additional Payment then outstanding.

b) Until the payment of all sums indicated in this Section 2.7 , the Shares and the Company shall remain the sole property of the Owner and the Lessee shall be a mere lessee thereof.

c) Notwithstanding anything to the contrary contained herein, if at the Transfer Date (defined below) (x) any of the Company or any of its direct or indirect subsidiaries own Property and (y) the Lessee is not majority-owned, directly or indirectly, by Iraqi natural citizens (and such majority ownership by Iraqi natural citizens, the "Approved Citizen Condition"), then title to such Property shall be transferred to the Owner for no consideration and shall be leased to the Company on a rent-free basis (but on such other terms as the Owner shall require at such time, including without limitation, customary leasing terms) until such time as there is in effect an Approved Citizen Condition.

Section 2.8 Owner's Commencement Date Conditions.

Commencement of the Agreement is subject to the fulfillment of each of the following conditions by the Lessee, any of which may be waived by the Owner in its sole discretion (the date of such fulfillment or waiver of all of the following conditions, the "Commencement Date"):

a) all representations and warranties of the Lessee contained in this Agreement shall be true and correct in all material respects; and

b) the Lessee shall have performed in all respects all covenants required to be performed by it hereunder on or prior to the Commencement Date and shall tender the cash and required documents at the Commencement Date as set forth in Section 2.6 and Section 2.9 .

Section 2.9 Commencement Date Deliveries.

On the Commencement Date, each Party agrees on its own behalf, as applicable, that the deliveries specified below will have been made by the respective Parties to this Agreement in order to consummate the transaction contemplated hereby:

- (a) Deliveries by the Owner:
 - (i) [Powers of Attorney as attached hereto as Annex __]
- (b) Deliveries by the Lessee:
 - (i) Insurance Certificates; and
 - (ii) the initial Rental Payment at the Commencement Date as set forth in Annex 2.9.

Section 2.10 Transfer Date Deliveries.

On the date on which Lessee has paid in full to Owner all of the Rental Payments remaining due and any Additional Payment then outstanding pursuant to (the "**Transfer Date**"), the Owner shall convey, transfer and assign to, and vest in the Lessee, legal title to the Shares. The Lessee shall be responsible for the recording and registration of all assignments and instruments to effect the matters referred to in this Section 2.10 .

Section 2.11 Guarantee.

a) In consideration of the Owner entering into this Agreement with the Lessee at the request of the Guarantor[s] (and for other valuable consideration the receipt and sufficiency of which the Guarantor[s] acknowledges), the Guarantor[s] guarantees to the Owner [, on a joint and several basis,] the due and punctual payment of all Rental Payments and Additional Payments due by the Lessee to the Owner.

b) Each Guarantor's guarantee ("**Guarantee**") shall constitute a direct primary and unconditional liability to pay on demand to the Owner any sum or sums which the Lessee may become liable to pay or perform on demand any obligations of the Lessee arising under this Agreement without the need for any claim or recourse on the part of the Owner against the Lessee and shall be unaffected by any time or indulgence granted to the Lessee by the Owner or any variation, act, omission, deed or matter of whatever description whereby the Guarantor[s] as surety only would or might have been released.

c) The Guarantee shall not be affected by any legal limitation disability or other circumstances (including for the avoidance of doubt any winding up or cessation of trade) relating to the Lessee or any irregularity, unenforceability or invalidity of any obligations of the Lessee under this Agreement.

d) The Guarantee shall be a continuing guarantee and shall remain in force until all the Lessee's obligations under this Agreement have been performed.

ARTICLE III

REPRESENTATIONS AND WARRANTIES OF THE OWNER

Section 3.1 Reliance.

The Owner acknowledges that the Lessee has entered into this Agreement in reliance upon the representations and warranties contained in this ARTICLE III.

Section 3.2 Warranties.

The Owner hereby warrants to the Lessee as follows:

a) **Organization and Authority.** The Owner is duly organized, validly existing and in good standing under the laws of Iraq, with full power and authority to execute and deliver this Agreement and to perform its obligations hereunder.

b) **Absence of Encumbrances.** The Shares are not subject to any Encumbrances (other than the rights of Lessee hereunder).

c) **Assets.** The Company owns or has the legal right to use all of the Business Assets and has good and valid title thereto, free and clear of all Encumbrances (other than Permitted Encumbrances).

d) **Corporate Authority; Validity of Agreement; No Violation.** The Owner has the corporate power and legal authority to execute and deliver this Agreement and the other agreements contemplated hereunder and to carry out its obligations hereunder and thereunder. The execution and delivery of this Agreement and the other agreements contemplated hereunder and the performance of the Owner's obligations hereunder and thereunder have been duly and validly authorized by all necessary corporate action by the Owner, and no other corporate proceedings on the part of the Owner are necessary to authorize such execution, delivery and performance. This Agreement has been, and the other agreements to be executed by the Owner in connection with this Agreement will be, duly and validly executed and delivered by the Owner and constitute or will constitute, as the case may be, the valid and binding obligations of the Owner enforceable against the Owner in accordance with its or their terms.

e) **Limitation on Warranties.** Any claims the Owner may have for breach of warranty shall be based solely on the warranties of the Lessee expressly set forth in this Agreement. Notwithstanding the foregoing, nothing herein shall relieve any Party from any liability for fraud.

f) **No Other Warranties.** Except for the warranties expressly set forth in this Agreement, neither the Owner nor any other Person makes any other

express or implied warranty or any representation on behalf of the Owner, and the Owner hereby disclaims any such warranty or any representation whether by the Owner or its respective officers, employees, agents or representatives or any other Person, as to the condition (financial or otherwise), value or quality of the Shares and the Business Assets, notwithstanding the delivery or disclosure to the Lessee or any of its officers, directors, employees, agents or representatives or any other Person of any documentation or other information by the Owner or any of its respective officers, directors, employees, agents or representatives or any other Person with respect to any one or more of the foregoing.

ARTICLE IV

REPRESENTATIONS AND WARRANTIES OF THE LESSEE AND THE GUARANTOR[S]

Section 4.1 Reliance.

The Lessee and the Guarantor acknowledge that the Owner has entered into this Agreement in reliance upon the representations and warranties contained in this ARTICLE IV.

Section 4.2 Warranties.

The Lessee and the Guarantor hereby warrant to the Owner as follows:

a) **Organization and Authority of the Lessee.** The Lessee and the Guarantor are validly existing and is in good standing under the laws of [Iraq], with full corporate power and authority to enter into this Agreement and perform its obligations hereunder.

b) **Financial Capability.** The Lessee has sufficient funds or capital commitments in place (i) to make the first Rental Payment and (ii) to operate the Business in accordance with the Business Plan, on the terms and conditions contained in this Agreement and will have such funds or capital commitments on the Commencement Date, and the Guarantor has sufficient funds or capital commitments in place to make all of the Rental Payments.

c) **Information.** All information furnished by or on behalf of the Lessee and the Guarantor to the Owner in connection with this Agreement or any transaction contemplated hereby, is true and correct in all material respects on the date as of which such information is dated or certified and does not omit any material fact necessary in order to make such information not misleading. No event or circumstance has occurred which has had or could reasonably be expected to have, individually or in the aggregate for all such events or circumstances, a material adverse effect on the ability of the Lessee and the Guarantor[s] to perform all of their respective obligations hereunder, which has not been fully and accurately disclosed to the Owner in writing.

d) **Prohibited Disposition.** Neither the Lessee nor the

Guarantor[s] (i) are at the date hereof or were at any time prior to such date closely affiliated with the former regime of Saddam Hussein, or (ii) are employing funds for the payment of the Rental Payments or the Additional Payments, and/or for the operation of the Business regardless of the source, that were gained from close association with the regime of Saddam Hussein, or (iii) are using capital or financing for the payment of the Rental Payments or the Additional Payments, and/or for the operation of the Business that has otherwise been attained illegally.

e) **Limitation on Warranties.** Any claims the Lessee may have for breach of warranty shall be based solely on the warranties of the Owner expressly set forth in this Agreement. All other warranties, whether express or implied, are hereby waived by the Lessee. The Lessee and the Guarantor further warrant that neither the Owner nor any other Person has made any warranty, express or implied, as to the accuracy or completeness of any information regarding any of the Owner, the Business Assets or the Assumed Liabilities not expressly set forth in this Agreement. Notwithstanding the foregoing, nothing herein shall relieve any Party from any liability for fraud.

f) **No Other Warranties.** Except for the warranties expressly set forth in this Agreement, neither the Lessee, the Guarantor nor any other Person makes any other express or implied warranty on behalf of the Lessee, the Guarantor and the Lessee hereby disclaims any such warranty whether by the Lessee, the Guarantor or any of its Affiliates or their respective officers, directors, employees, agents or representatives or any other Person, notwithstanding the delivery or disclosure to the Owner or any of its officers, directors, employees, agents or representatives or any other Person of any documentation or other information by the Lessee, the Guarantor or any of its respective officers, directors, employees, agents or representatives or any other Person with respect to any one or more of the foregoing.

ARTICLE V

COVENANTS

Section 5.1 Compliance with Business Plan.

The Lessee shall comply and shall cause the Company to comply in all material respects with the Business Plan and shall not, without the prior written consent of the Owner, (i) vary from any of the actions and commitment required by the Business Plan, (ii) change the use of the Business Assets or permit the use of the Business Assets to be changed to any purpose other than as set out in the Business Plan, (iii) remove any of the Assets without the prior written consent of the Owner, (iv) lease or otherwise create any interest in the Property without the prior written consent of the Owner, (v) permit the Company to engage in any business other than the Business, or (vi) terminate any employees of the Company or institute any severance arrangements, except in accordance with the Business Plan.

Section 5.2 Financial Capacity

The Lessee covenants that it will invest at least [] in the

Business, in accordance with the Business Plan.

Section 5.3 Encumbrance.

The Lessee will not and will not permit the Company, directly or indirectly, to create or permit to be created and to remain any Encumbrance with respect to, the Shares and the Business Assets or any part thereof, without the prior written consent of the Owner.

Section 5.4 Indebtedness.

The Lessee shall not permit the Company incur, create, assume, become or be liable in any manner with respect to, or permit to exist, any Indebtedness, or guarantee, assume, endorse, or otherwise become responsible for (directly or indirectly), the Indebtedness, performance, obligations or dividends of any other Person, except as provided in the Business Plan.

Section 5.5 Loans.

The Lessee shall not permit, directly or indirectly, the Company to make any loans or advance money or property to any Person, or invest in (by capital contribution, dividend or otherwise) or purchase or repurchase the shares of capital stock or Indebtedness or all or a substantial part of the assets or property of any Person, or form or acquire any subsidiaries, or agree to do any of the foregoing, except as provided in the Business Plan.

Section 5.6 Transfer of Assets.

The Lessee shall not transfer, abandon or otherwise dispose of the Shares and shall not permit the Company to transfer, abandon or otherwise dispose of the Business Assets or any part thereof otherwise than in accordance with the Business Plan (including any sales of goods and services in the ordinary course of business) or without the prior written approval of the Owner.

Section 5.7 Applicable Laws.

a) The Lessee shall comply at all times and shall cause the Company at all times to comply with the requirements of all applicable laws, rules, regulations and orders of any Governmental Authority.

b) The Lessee shall at all times and shall cause the Company at all times to have all material permits, material licenses, material approvals, material consents, material certificates, material orders or material authorizations of any Governmental Authority required for the lawful conduct of the Business and other activities related thereto (collectively, the "Permits"), and shall ensure that all such Permits are valid and subsisting and in full force and effect.

Section 5.8 Maintenance and Repair.

a) The Lessee acknowledges that, with full awareness of its obligations under this Agreement, the Lessee has accepted the condition, state of

repair and appearance of the Business Assets. The Lessee agrees that, subject to the terms of the Business Plan and at its expense, it shall put, keep and maintain and shall cause the Company to put, keep and maintain the Business Assets, including any altered, rebuilt, additional or substituted buildings, structures and other assets thereto or thereon, in good repair and appearance and in safe condition, and shall make all repairs and replacements necessary therefor. For the avoidance of doubt, the Owner shall not be required to maintain, repair or rebuild, or to make any alterations, replacements or renewals of any nature to the Business Assets, or any part thereof, whether ordinary or extraordinary, structural or nonstructural, foreseen or not foreseen, or to maintain the Business Assets or any part thereof in any way or to correct any patent or latent defect therein.

b) The Owner and its respective agents and designees may enter upon and inspect the Company and its Business Assets at reasonable times and on reasonable prior notice (being at least one-day's prior notice) and, where there is an Event of Default continuing, show the Company and the Business Assets to prospective Lessees; provided, however, that entrants onto the Business Assets shall maintain as confidential any third party confidential information viewed by them at the Business.

Section 5.9 Insurance.

a) The Lessee shall maintain, or cause to be maintained, at its sole expense, the following insurance on the Business Assets (herein called the "**Required Insurance**"):

i) Insurance insuring the Property and the Assets for all risks of direct physical loss and for perils covered by the causes of loss-special form (all risk, extended coverage) and in addition, ordinance or law coverage and machinery. Such insurance shall be written on a replacement cost basis with an agreed value equal to the full insurable replacement value of the Business Assets. The policy shall name the Owner as insureds and loss payees. If in the opinion of the Owner the amount of the Lessee's insurance is found to be inadequate to comply with the second sentence of this Subsection 5.8(a)(i), the Lessee will increase the insurance to an amount sufficient to comply therewith as determined by the Owner; and

ii) Such other insurance as the Owner may, from time to time, reasonably require.

b) The policies required to be maintained by the Lessee shall be with companies [having an insurance company claims paying rating equal to or greater than A by Standard & Poors Corporation or A2 by Moody's Investment Service or be considered equivalent to an NAIC 1 or other acceptable rating acceptable to the Securities Valuation Office of the National Association of Insurance Commissioners]. Certificates of insurance, together with reasonable evidence of payment of the premiums therefor, shall be delivered to the Owner prior to the Commencement Date of this Agreement and thereafter at least thirty (30) days prior to the expiration date of each required policy, and such certificates shall include such information as is necessary to evidence compliance of such policies with the

provisions of this Section 5.9 . The Lessee shall not provide insurance coverage in the form of a blanket policy. Such policy of insurance shall provide notification to the Owner at least thirty (30) days prior to any non-renewal, cancellation or modification to reduce the insurance coverage.

c) i) Insurance claims by reason of damage to or destruction of any portion of the Business Assets shall be adjusted by the Owner, and the Lessee shall implement any such decisions of the Owner. The Lessee shall, promptly after any damage or destruction to the Business Assets, advise the Owner of such occurrence and consult with the Owner throughout the process of adjusting any such claim. The Owner shall not be required to prosecute any claim against, or to contest any settlement proposed by, an insurer. The Owner shall be entitled to prosecute any such claim or contest any such settlement in the name of the Company and the Owner (as applicable).

ii) Proceeds from the property insurance policy (net of the Company's and if applicable, the Owner's reasonable expenses incurred in adjusting and collecting such proceeds) shall be made available from the Owner to the Company, but only upon submission to the Owner (A) prior to commencement of work, of plans and specifications covering all repair and restoration work in form and substance acceptable to the Owner, and (B) prior to each periodic disbursement: (1) reasonable evidence that the remaining unapplied proceeds of the insurance will be sufficient to pay the remaining cost of the reconstruction or repair and provide a reasonable reserve for contingencies, (2) certificates of the Company delivered to the Owner from time to time as such work or repair progresses, each such certificate describing the work or repair for which the Company is requesting payment and the cost incurred by the Company in connection therewith and stating that the Company has not theretofore received payment for such work and has sufficient funds remaining to complete the work free of liens or claims, (3) owner's and contractor's sworn statements in customary form and appropriate waivers of mechanic's or construction liens, and (4) architect's certificates in customary form covering the work for which payment is requested. Any proceeds remaining after the Company has repaired the Business Assets shall be delivered to the Company. No payment shall be made to the Company pursuant to this Section 5.9 (c) if any monetary default is continuing or any Event of Default is continuing in the performance by the Lessee of its obligations under this Agreement.

d) In the event the Lessee does not purchase the insurance required by this Agreement or keep the same in full force and effect, the Owner may, but shall not be obligated to, purchase the necessary insurance and pay the premium therefor. The Lessee shall repay to the Owner, as Additional Payment, the amount so paid promptly upon demand. In addition, the Owner may recover from the Lessee and the Lessee agrees to pay, as Additional Payment, any and all reasonable expenses (including reasonable attorneys' fees) and damages which the Owner may sustain by reason of the failure of the Lessee to obtain and maintain such insurance.

e) The Owner shall not be limited in the proof of any damages which the Owner may claim against the Lessee arising out of or by reason of the Lessee's failure to provide and keep in force any of the Required Insurance to the amount of the insurance premium or premiums not paid or incurred by the Lessee and which would have been payable under such insurance; but the Owner shall also be entitled to recover as damages for such breach, the uninsured amount of any loss, to the extent of any deficiency in the Required Insurance and damages, costs and expenses of suit suffered or incurred by reason of or damage to, or destruction of the Business Assets, occurring during any period when the Lessee may have failed or neglected to obtain the Required Insurance. The Lessee shall indemnify and hold harmless the Owner for any liability incurred by the Owner arising out of any deductibles for Required Insurance.

f) All policies of insurance required under this Section 5.9 shall contain clauses or endorsements to the effect that:

i) No act or negligence of the Owner, or anyone acting for the Owner or of the Lessee or failure to comply with the provisions of any policy which might otherwise result in a forfeiture of the insurance or any part thereof, shall in any way affect the validity or enforceability of the insurance insofar as the Owner is concerned; and

ii) The Owner shall not be liable for any insurance premiums thereon or subject to any assessments thereunder.

Section 5.10 Financial Statements and Additional Information

The Lessee shall keep proper books and records in which entries required by IFRS (where applicable) shall be made of all business transactions of or in relation to the Business, as applicable. The Lessee shall promptly furnish to the Owner all such financial and other information as the Owner shall reasonably request relating to the Company and its subsidiaries and the Business Assets. Without limiting the foregoing the Lessee will deliver to the Owner copies of the following:

a) **Monthly Statements.** Within ten (10) days after the end of each month, a report setting out the status of the Company and its subsidiaries and a statement of profits and losses of the Company and its subsidiaries, such report to be prepared by one or more accountants appointed from time to time by the Owner and allowed to remain resident and have access to the books and records of the Company (the "Ministry Accountant").

b) **Quarterly Statements.** Within sixty (60) days after the end of each quarterly fiscal period (except the last) in each fiscal year of the Lessee and of the Company, copies of:

i) A consolidated balance sheet as at the end of such quarter of (x) the Lessee, and (y) the Company and its subsidiaries,

ii) A consolidated statement of profits and losses for the

current quarter and the portion of the fiscal year ending with such quarter of (x) the Lessee, and (y) the Company and its subsidiaries,

iii) A consolidated statement of cash flows for the portion of the fiscal year ending with the current quarter of (x) the Lessee, and (y) the Company and its subsidiaries,

Setting forth in each case in comparative for the figures for the corresponding periods a year earlier, all in reasonable detail and certified as having been prepared in accordance with generally accepted accounting principles consistently applied and certified as complete; and correct by a senior financial officer of the Lessee and the Company, as applicable.

c) **Annual Statements.** Within ninety (90) days after the end of each fiscal year of the Lessee and the Company, copies of:

i) A consolidated balance sheet as at the end of such year of (x) the Lessee, and (y) the Company and its subsidiaries,

ii) Consolidated statements of profits and losses for such year of (x) the Lessee, and (y) the Company and its subsidiaries, and

iii) A consolidated statement of cash flows for such year of (x) the Lessee, and (y) the Company and its subsidiaries,

Setting forth in each case in comparative form the figures for the previous fiscal year, all in reasonable details and accompanied by the report thereon, containing an opinion unqualified as to limitations imposed by the Lessee (with the prior consent of the Owner) on the scope of the audit, of a firm of independent certified public accountants of recognized international standing selected by the Lessee which opinion shall state that the consolidated financial statements of (x) the Lessee, and (y) the Company and its subsidiaries fairly present the financial condition of the companies (including the results of their operations and changes in financial position) being reported upon, have been prepared in accordance with IFRS and that the examination of such accounts in connection with such financial statements has been made in accordance with applicable generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as were considered necessary in the circumstances.

d) **Additional Information.** With reasonable promptness, the Lessee will provide the Owner such additional financial statements and information regarding the business affairs and financial condition of the Lessee and the Company as the Owner may reasonably request; provided, the Lessee shall not be required to generate financial statements under this sentence which it does not otherwise generate for some other purpose (including internal purposes). In addition, the Lessee shall submit to the Owner copies of all financial information submitted by the Lessee and the Company to its respective institutional lenders, bondholders and other institutional investors as and when such information is delivered to such other parties. Upon the prior written request of the Owner the Lessee shall cause a senior financial officer of the Lessee and of the Company to meet at the Lessee's offices with representatives of

the Owner to discuss the business and financial affairs of the Lessee and the Company, and the financial statements and other information submitted by the Lessee to the Owner pursuant to this Agreement.

Section 5.11 Access to Information and Access to the Property.

a) Notwithstanding the provisions of Section 5.10 above, upon the request of the Owner, the Lessee shall immediately make available to the Owner and to the Owner's professional advisers, all books and records of the Company and all financial and other information held by the Lessee or the Company in respect of the Company, its subsidiaries and the Business Assets.

b) The Owner and the Owner's professional and other advisers shall have a right of entry to the Property in order to enable the Owner and/or the Owner's professional advisers to inspect the books and records of the Company, the Property and the Business Assets, such right to be exercisable (i) in all cases on reasonable notice to the Lessee, and (ii) in circumstances where the Owner reasonably believes the Lessee and or the Guarantor[s] may (x) be in breach of this Agreement or (y) have committed or be about to commit a criminal felony, in which case the Owner its professional and other advisers shall have an immediate right of access to the Property.

c) Where the provisions of Section 7.1 apply the Owner, its professional and other advisers and any prospective Lessee shall have a right of entry to the Property, without notice to the Lessee, such right to be deemed to be in existence from the date of occurrence of the Event of Default.

Section 5.12 Transactions with Affiliates.

The Lessee shall ensure that the Company shall not, directly or indirectly:

a) Purchase, acquire or lease any property or services from, or sell, transfer or lease any property or services to, any officer, director or other Affiliate of the Lessee and/or the Guarantor[s], except in accordance with the Business Plan, and

b) Make any payments (whether by dividend, loan or otherwise) of management, consulting or other fees for management or similar services, or of any Indebtedness owing to any officer, employee, shareholder, director or any other Affiliate of the Lessee and/or the Guarantor[s], except (i) reasonable compensation to officers, employees and directors for services rendered to the Business in the ordinary course of business.

Section 5.13 Further Assurances; Subsidiaries.

At the request of the Owner at any time and from time to time, the Lessee shall, at its expense, duly execute and deliver, or cause to be duly executed and delivered, such further agreements, documents and instruments, and do or cause to be done such further acts as may be necessary to otherwise effectuate the provisions or

purposes of this Agreement. The Lessee covenants and agrees that it will cause each subsidiary of the Company to be bound as if it were included with the definition of "Company" under this ARTICLE V.

Section 5.14 Environmental Standards, Prevention of Waste and Nuisance

a) In operating the Company and in performing the obligations set out in this Agreement the Lessee shall, and shall ensure that the Company and its subsidiaries shall, install and utilize such safety devices, observe such safety precautions and observe all environmental regulations that apply in Iraq. The Lessee's duties under this Agreement include the duty to ensure that the local environment is not damaged by any of its operations under this Agreement.

b) At its own expense, the Lessee shall exercise due care and diligence to keep the Property, the Business Assets and any assets owned by the Company or used by the Lessee or the Company and its subsidiaries in connection with the Business from time to time in good working order and where, in accordance with the terms of this Agreement, ownership of the Shares and the Company is not transferred to the Lessee, shall deliver them to the Owner in good working order, normal wear and tear excepted.

c) The Lessee shall exercise due care and diligence to ensure that the Business Assets owned by the Company and its subsidiaries or used by the Lessee or the Company and its subsidiaries in connection with the Business from time to time do not become a nuisance to the public or the surrounding area.

ARTICLE VI

SURVIVAL AND INDEMNIFICATION

Section 6.1 Indemnification.

a) The Lessee agrees to pay, and to protect, defend (with counsel reasonably acceptable to the Owner), indemnify and hold harmless the Owner and its officers, directors, trustees, members, partners, shareholders, beneficiaries, employees and agents (together the "**Indemnified Parties**") from and against any and all liabilities, losses, damages, costs, expenses (including all reasonable attorneys' fees and expenses), causes of action, suits, claims, demands or judgments of any nature (herein collectively called "**Damages**") whatsoever arising from (i) any use, condition or event occurring on the Property or in relation to the Business Assets or any acts or occurrences of the Company and its subsidiaries prior to or during the Term, (ii) any injury to, or the death of, any person or damage to property on the Property or in relation to the Assets prior to or during the Term, (iii) any injury to, or the death of, any person or damage to property upon adjoining sidewalks, streets or right of ways, in any manner growing out of or connected with the use, non-use, condition or occupation of the Property, adjoining sidewalks, streets or right of ways prior to or during the Term, (iv) any violation by the Lessee of any agreement or condition of this Agreement, or any contract or agreement to which the Lessee is a party or which pertains to the Business, the Business Assets or any part thereof or the ownership,

occupancy or use thereof, and (v) any violation by Lessee of any Legal Requirement; provided, however, the foregoing indemnity shall not apply as to an Indemnified Party with respect to claims arising solely from the grossly negligent affirmative acts or willful misconduct of such Indemnified Party. If an Indemnified Party shall be made a party to any such litigation commenced against the Lessee, the Lessee shall pay all reasonable costs and attorneys' fees and expenses incurred or paid by the Indemnified Party in connection with such litigation.

b) The Lessee shall indemnify each Indemnified Party with respect to any loss or damage suffered by the Indemnified Party by reason of any material inaccuracy or misstatement in any representation or warranty of the Lessee set forth in this Agreement or in any document, notice, certificate, demand or request delivered to any Indemnified Party pursuant to this Agreement.

c) The Lessee's obligations and liabilities under this ARTICLE VI shall survive expiration or earlier termination of this Agreement.

ARTICLE VII

TERMINATION AND LESSEE DISPOSAL

Section 7.1 Event of Default.

a) Any of the following occurrences or acts shall constitute an event of default (herein called an "Event of Default") under this Agreement:

i) If the Lessee or the Guarantor, at any time during the Term of this Agreement (and regardless of the pendency of any bankruptcy, reorganization, receivership, insolvency or other proceedings, at law, in equity, or before any administrative tribunal, which have or might have the effect of preventing the Lessee from complying with the terms of this Agreement), shall fail to make any two Rental Payments within 5 Business Days of their due or if, in the aggregate, Lessee or Guarantor owe in excess of _____, which amount has been due and owing for 5 Business Days; or

ii) If the Lessee, at any time during the Term of this Agreement shall fail to observe or perform any aspect of the Business Plan or shall vary therefrom without the prior written consent of the Owner, or shall, in the reasonable opinion of the Owner, take or refrain from taking any action which would, in the reasonable opinion of the Owner, have a material adverse effect on the Company;

iii) If the Lessee or any of its shareholders has directly or indirectly misappropriated the assets of the Company or any of its subsidiaries;

iv) If the Lessee, at any time during the Term of this

Agreement shall (i) fail to observe or perform Section 5.8 or (ii) shall fail to observe or perform any other material provision hereof or any agreement entered into as a consequence of this Agreement for thirty (30) days after written notice to the Lessee of such failure has been given; or

v) If any material representation or warranty of the Lessee or the Guarantor set forth herein or in any notice, certificate, demand, request or other instrument delivered pursuant to, or in connection with, this Agreement shall prove to be either false or misleading in any material respect as of the time when the same shall have been made;

vi) if any license, franchise or permit required to operate the Business or own any of the Business Assets shall be revoked, lapse or fail to be renewed'

vii) if the Company and its subsidiaries shall fail to pay taxes when due, or to comply with tax, accounting or custom regulations or administrative instructions, or

viii) If the Lessee or the Company shall file a petition commencing a voluntary case under the [Iraqi Bankruptcy Code] or any other law (as now or hereafter in effect) relating to bankruptcy, insolvency, reorganization, winding-up or adjustment of debts (hereinafter collectively called "**Bankruptcy Law**") or if the Lessee or the Company shall (A) apply for or consent to the appointment of, or the taking of possession by, any receiver, custodian, trustee or liquidator (or other similar official) of the Company or any Business Assets or any part thereof or of any substantial portion of the Lessee's property, or (B) generally not pay its debts as they become due, or admit in writing its inability to pay its debts generally as they become due or (C) make a general assignment for the benefit of its creditors, or (D) fail to controvert in timely and appropriate manner, or in writing acquiesce to, any petition commencing an involuntary case against the Lessee or otherwise filed against the Lessee or the Company pursuant to any Bankruptcy Law, or (E) take any significant action in furtherance of any of the foregoing.

b) If an Event of Default shall have happened and be continuing, the Owner shall have, in its sole discretion, the following rights:

i) To give the Lessee at least one (1) days' written notice of the Owner's intention to terminate this Agreement on a date specified in such notice. Thereupon, this Agreement and the lease hereby granted shall terminate on such date as completely and with the same effect as if such date were the date fixed herein for the expiration of the Term of this Agreement, and all rights of the Lessee hereunder shall terminate, but the Lessee shall remain liable as provided herein (including without limitation the obligation to pay all remaining Rental Payments and all Additional Payments then owed); and

ii) To (A) re-enter the Property and repossess the Shares and Business Assets and any part thereof by force, summary proceedings, ejections or otherwise and (B) remove all persons and property therefrom, whether or not this Agreement has been terminated pursuant to clause (i) above, the Lessee hereby expressly waiving any and all notices to quit, cure or vacate provided by current or any future law, to the extent permitted by any such law. The Owner shall have no liability by reason of any such re-entry, repossession or removal. No such re-entry or taking of possession of the Shares and the Business Assets by the Owner shall be construed as an election on the Owner's part to terminate the Term of this Agreement unless a written notice of such intention be given to Lessee pursuant to clause (i) above.

iii) The rights and remedies set forth in this Article VIII may be exercised in any order and in any combination whatsoever. No right or remedy herein conferred upon or reserved to the Owner is intended to be exclusive of any other right or remedy, and each and every right and remedy shall be cumulative and in addition to any other right or remedy given hereunder or now or hereafter existing at law or in equity. The failure of the Owner to insist at any time upon the strict performance of any covenant or agreement or to exercise any option, right, power or remedy contained in this Agreement shall not be construed as a waiver or a relinquishment thereof for the future. A receipt by the Owner of any Rental Payment Rent, any Additional Payment or any other sum payable hereunder with knowledge of the breach of any covenant or agreement contained in this Agreement shall not be deemed a waiver of such breach, and no waiver by the Owner of any provision of this Agreement shall be deemed to have been made unless expressed in writing and signed by the Owner. In addition to other remedies provided in this Agreement, the Owner shall be entitled, to the extent permitted by applicable law, to injunctive relief in case of the violation, or attempted or threatened violation, of any of the covenants, agreements, conditions or provision of this Agreement, or to decree compelling performance of any of the covenants, agreements, conditions or provisions of this Agreement, or to any other remedy allowed to the Owner at law or in equity. (b) Lessee hereby waives and surrenders for itself and all those claiming under it, including creditors of all kinds, (i) any right or privilege which it or any of them may have under any present or future constitution, statute or rule of law to redeem the Shares or to have a continuance of this Agreement for the Term hereby demised after termination of Lessee's right of occupancy by order or judgment of any court or by any legal process or writ, or under the terms of this Agreement or after the termination of the Term of this Agreement as herein provided, and (ii) the benefits of any present or future constitution, statute or rule of law which exempts property from liability for debt or for distress for rent.

c) The Lessee shall promptly (upon receipt of any invoices therefore) reimburse the Owner for any reasonable costs and expenses it incurs in

connection with any consents, approvals, waivers or amendments requested by the Lessee of the Owner or otherwise required under or in connection with this Agreement.

d) Upon the termination of this Agreement following an Event of Default, the Lessee shall peaceably surrender the Shares and the Company and all Business Assets to the Owner in the condition in which such property is to be kept under the provisions of this Agreement.

e) Notwithstanding anything to the contrary contained herein, upon the termination of this Agreement following an Event of Default, the Lessee shall pay to the Owner, within 10 days following the calculation of the Deficit Amount as described below, the Deficit Amount as follows:

i) As soon as practicable after termination of this Agreement following an Event of Default, the Ministry Accountant and the Company shall prepare and deliver to Lessee a statement of the Net Worth of Company and its Subsidiaries as of the moment in time immediately prior to such termination (the "Closing Statement") determined in accordance with the IFRS and the provisions hereof. For purposes hereof, "Net Worth with respect to the Company (including the Company and its Subsidiaries on a consolidated basis) means all assets minus all liabilities (including an appropriate amount for all contingent liabilities). The Net Worth determined by the Ministry Accountant shall be final and binding upon the Parties.

ii) If the Net Worth on the Closing Statement is less than _____ (any such difference, the "**Deficit Amount**"), then the Lessee shall pay to the Owner any Deficit Amount in immediately available funds as provided above, together with interest (equal to _____ percent (____%) per annum computed on the basis of a 360-day year and paid for the actual number of days elapsed). [Need to review interest under Iraqi law]

Section 7.2 Holdover.

In addition to and without limitation of other rights and remedies of the Owner in case of breach by the Lessee of the provisions of this Agreement the Owner may seek payment from the Lessee for the period of time that the Lessee fails to vacate any part of the Property or turn over the Shares or the Business Assets, all payments under this Agreement shall bear interest from the date due until paid at a rate equal to the prime rate of the [Bank of Iraq] as announced on the date such payment was due plus [three percent (3%)]. In addition, the Lessee shall reimburse the Owner for all reasonable costs and expenses, including without limitation reasonable attorneys' fees and legal expenses, incurred in the collection of late payments. Such payments shall not, however, confer any right to the Lessee to remain in possession.

Section 7.3 Lessee Disposal.

a) Where, on or after the Transfer Date, the Lessee transfers, assigns or otherwise disposes of its interest in the Shares or the Company disposes of all or substantially all of the assets of the Company (such transaction or series of related transactions the "Disposal"), the Lessee shall be entitled to any and all sums realized by such Disposal in accordance with the following vesting schedule:

i) 20% of the gross profits minus transaction expenses, if the Disposal occurs on or after the first anniversary, but prior to the second anniversary, of the Commencement Date;

ii) 40% of the gross profits minus transaction expenses, if the Disposal occurs after the second anniversary, but prior to the third anniversary, of the Commencement Date;

iii) 60% of the gross profits minus transaction expenses, if the Disposal occurs on or after the third anniversary, but prior to the fourth anniversary, of the Commencement Date;

iv) 80% of the gross profits minus transaction expenses, if the Disposal occurs on or after the fourth anniversary, but prior to the fifth anniversary, of the Commencement Date; and

v) 100% of the gross profits minus transaction expenses, if the Disposal occurs on or after the fifth anniversary of the Commencement Date; each such amount the "Disposal Profit".

b) The Lessee shall pay, or shall cause the Company to pay, the Disposal Profit to the Owner within 5 days of such Disposal by wire or other electronic transfer of immediately available funds to the Owner at the address set forth above and/or to such other person or such other place or account as the Owner from time to time may designate to the Lessee in writing.

ARTICLE VIII

ARBITRATION

Section 8.1 Arbitration.

a) In the event of any controversy, claim or counter-claim arising out of or relating to this Agreement, or any related agreement, the Parties shall first attempt to resolve such controversy or claim or counter-claim through good-faith negotiations for a period of no less than thirty (30) days following written notification of such controversy or claim or counter-claim to the other Party.

b) If such controversy or claim or counter-claim cannot be resolved by means of such negotiations during such period (or such other period as the Parties may mutually agree) then the same shall be resolved exclusively by arbitration, by notice given by one Party to the other Party to this Agreement specifying the cause of action and such Party's nominated arbitrator (the "Arbitration

Notice”).

c) Arbitration shall be conducted by one arbitrator pursuant to the Arbitration Rules of the United Nations Commission on International Trade Law (UNCITRAL) in effect at the time of such arbitration, save as varied by this Article IX. The Parties hereby designate as their “appointing authority” the Secretary-General of the Permanent Court of Arbitration at The Hague or, in default of such appointment, the Secretary General of the Convention on the Settlement of Investment Disputes between States and nationals of Other States or such appointing authority as he designates.

Section 8.2 Venue for Arbitration.

The venue of the arbitration shall be [Baghdad, Iraq]. All arbitration proceedings shall be conducted in the English language and all foreign language documents shall be submitted in the original language and shall also be accompanied by a translation into English.

Section 8.3 Fees and Costs.

All costs and fees of the successful Party associated with the arbitration procedure (including reasonable attorneys’ fees and the costs of the arbitration) shall be borne by the losing Party and paid to the successful Party within 30 days of the decision by the arbitrator.

Section 8.4 Decision of the Arbitrator Binding on Parties.

The decision of the arbitrator shall be delivered in writing. The arbitrator shall give a written reason for their decision. Any arbitral award shall be final and binding on the Parties to this Agreement and judgement upon any arbitral award may be entered and enforced by any court or judicial authority of competent jurisdiction.

ARTICLE IX

MISCELLANEOUS

Section 9.1 Notices, Demands and Other Instruments.

a) All notices, demands, requests, consents, approvals and other instruments required or permitted to be given pursuant to the terms of this Agreement shall be in writing and shall be deemed to have been properly given if sent by overnight express courier (in which event they shall be deemed delivered on the next business day), or delivered by hand (in which event they shall be deemed delivered on the date of actual delivery or refusal to accept delivery), addressed as follows:

If to Lessee:

[]

With a copy to:

[]

Attention:

If to The Owner:

[]

With a copy to:

[]

Attention:

b) The Owner and Lessee shall each have the right from time to time to specify as its address for purposes of this Agreement any other address upon fifteen(15) days written notice thereof, similarly given, to the other Party.

Section 9.2 Severability.

a) Each and every covenant and agreement contained in this Agreement is separate and independent, and the breach of any thereof by the Owner shall not discharge or relieve Lessee from any obligation hereunder. If any term or provision of this Agreement or the application thereof to any person or circumstances shall at any time be invalid and unenforceable, the remainder of this Agreement, or the application of such term or provision to persons or circumstances or at any time other than those to which it is invalid or unenforceable, shall not be affected thereby, and each term and provision of this Agreement shall be valid and shall be enforced to the extent permitted by law.

b) No provision contained in this Agreement which purports to obligate the Lessee to pay any amount of interest or any fees, costs or expenses which are in excess of the maximum permitted by applicable law, shall be effective to the extent that it calls for payment of any interest or other sums in excess of such maximum.

Section 9.3 Binding Effect.

a) All of the covenants, conditions and obligations contained in this Agreement shall be binding upon and inure to the benefit of the respective successors and assigns of the Owner and the Lessee.

b) Each of the Parties is sophisticated and was advised by experienced counsel and, to the extent it deemed necessary, other advisors in connection with this Agreement. Each of the Parties hereby acknowledges that (i) no Party has relied or will rely in respect of this Agreement or the transactions contemplated hereby upon any document or written or oral information previously furnished to or discovered by it or its representatives, other than this Agreement (including the Schedules hereto), (ii) there are no representations or warranties by or on behalf of any Party hereto or any of its respective Affiliates or representatives other than those expressly set forth in this Agreement, and (iii) the Parties' respective rights and obligations with respect to this Agreement and the events giving rise thereto will

be solely as set forth in this Agreement. No person will have or be subject to any liability to Lessee or any other person resulting from the distribution to Lessee, or Lessee's use of, any information not contained in this Agreement (including, without limitation, any offering memorandum, brochure or other publication provided to Lessee, and any other document or information provided to Lessee in connection with the transactions herein). Notwithstanding anything contained herein to the contrary, the Owner makes no representation, warranty or covenant of any kind with respect to any projections, estimates or budgets heretofore delivered to or made available to Lessee of future revenues, expenses or expenditures, future results of operations (or any component thereof), future cash flows or future financial condition (or any component thereof) of the Company or the future business and operations of the Company.

Section 9.4 Table of Contents; Headings.

The table of contents and headings used in this Agreement are for convenient reference only and shall not to any extent have the effect of modifying, amending or changing the provisions of this Agreement.

Section 9.5 Governing Law.

This Agreement shall be governed by and interpreted under the laws of the state of Iraq without regard to its conflict of laws rules.

Section 9.6 Assignment.

This Agreement may not be assigned or otherwise transferred by the Lessee or the Guarantor without the written consent of the Owner, it being understood and agreed that the Owner shall be entitled to assign and otherwise dispose of its interests in the Company and this Agreement from time to time, in whole or in part. Any purported assignment in violation of this Section 9.6 shall be void.

Section 9.7 Exhibits.

Exhibits [] attached hereto are hereby incorporated by reference in this Agreement and made a part hereof.

Section 9.8 Entire Agreement

This Agreement is the entire agreement of the Owner and the Lessee. Nothing not contained herein is part hereof. No representations, warranties or agreements oral or written have been made by the Owner or relied upon by the Lessee that are not expressly included in this written Agreement.

Section 9.9 Confidentiality

If the Lessee receives any confidential information in the course of negotiating or performing this Agreement, so long as such information remains confidential Lessee shall maintain the confidentiality of all such information at all times including after the expiration or termination of this Agreement and shall not disclose any such information to any person not authorized in advance of disclose in a

signed writing by the Owner to receive such information and shall not use or permit the use of such confidential information except as permitted herein. Furthermore, the Lessee shall take reasonable precautions to see that all of its servants, employees and other agents do not disclose or improperly use such confidential information.

Section 9.10 Modification or Amendment

This Agreement can be modified or amended on by a writing signed by the Owner and the Lessee.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as of the day and year first above set forth.

THE OWNER:

THE LESSEE:

EXHIBIT 1

SPECIFIC DEFINITIONS

"Business" means the _____ business carried out by the Company from time to time.

"Business Plan" shall mean the business plan set forth as Annex ____.

"Commencement Date" shall have the definition set forth in Section 2.7.

"Encumbrance" shall mean any lien, charge, pledge, conditional sale or other title retention agreement or other encumbrance.

"IFRS" means generally accepted accounting principles, consistently applied under International Financial Reporting Standards. All financial determinations made under this Agreement shall be made in accordance with IFRS.

"Indebtedness" shall mean, with respect to any Person, any liability, whether or not contingent, without duplication (a) in respect of borrowed money (whether or not the recourse of the lender is to the whole of the assets of such Person or only to a portion thereof) or evidenced by bonds, notes, debentures or similar instruments; (b) representing the balance deferred and unpaid of the purchase price of any property or services (except any such balance that constitutes an account payable to a trade creditor (whether or not an Affiliate) or accrual with respect to any other amount created, incurred, assumed or guaranteed by such Person in the ordinary course of business of such Person in connection with obtaining goods, materials or services that is not overdue by more than ninety (90) days, unless the trade payable or accrual is being contested in good faith); (c) all obligations as lessee under leases which have been, or should be, in accordance with IFRS recorded as Capital Leases; (d) any contractual obligation, contingent or otherwise, of such Person to pay or be liable for the payment of any indebtedness described in this definition of another Person, including, without limitation, any such indebtedness, directly or indirectly guaranteed, or any agreement to purchase, repurchase, or otherwise acquire such indebtedness, obligation or liability or any security therefore, or to provide funds for the payment or discharge thereof, or to maintain solvency, assets, level of income, or other financial condition; (e) redemption or repurchase obligations under any Capital Stock or other equity securities issued by such Person if such redemption or repurchase obligation is required to be made prior to the repayment of all Obligations and Foreign Obligations; (f) all reimbursement obligations and other liabilities of such Person with respect to surety bonds (whether bid, performance or otherwise), letters of credit, banker's acceptances, drafts or similar documents or instruments issued for such Person's account; (g) all indebtedness of such Person in respect of indebtedness of another Person for borrowed money or indebtedness of another Person otherwise described in this definition which is secured by any consensual lien, security interest, charge, collateral assignment, conditional sale, mortgage, deed of trust, or other encumbrance on any asset of such Person, whether or not such obligations, liabilities or indebtedness are assumed by or are a personal liability of such Person, all as of such time; and (h) all obligations, liabilities and indebtedness of such Person (marked

to market) arising under swap agreements, cap agreements and collar agreements and other agreements or arrangements designed to protect such person against fluctuations in interest rates or currency or commodity values.

"Permitted Encumbrance" shall mean any and all zoning, building, and other statutory or regulatory conditions and restrictions of record, and Encumbrances for taxes and assessments and for delivery of goods and services not yet due and payable.

"Person" shall mean any natural person or any corporation, company, partnership, joint venture, firm or other entity, including without limitation a Party.

EXHIBIT 2

RENTAL PAYMENT SCHEDULE

1. The Rental Payments to be paid by the Lessee to the Owner
shall be as follows:

Payment Date	Payment Amount
1.	<i>[Minimum of 25% of total purchase price]</i>
2.	
3.	
4.	
5.	
6.	
7.	



COALITION PROVISIONAL AUTHORITY
BAGHDAD

ACTION MEMO

December 17, 2003

FOR:

(b)(6)

FROM:

(b)(6)

Jan-Erik Bjorn, BearingPoint

SUBJECT: recommendation for action to be taken for the MIC enterprises currently under the administration of DPSD.

Based upon the information collected from the management of the companies (as presented in the Detailed list annex) we established two main categories for MIC SOEs- recommendation for liquidation and prepare for restructuring, consolidation or leasing.

Law 22 on State Enterprises 1997 stipulates in Chapter Three, Article 14 when an enterprise can be put into liquidation. In this respect it was necessary to proceed for modification to the law according to the updated situation. This has to be made in conjunction with the General Council taking in considerations the necessary changes to the liquidation legal provisions. Subsequently we have determined that the listed enterprises in annex A qualify to the conditions set forth in the mentioned law. The procedure of liquidation is described in the same law Chapter Ten Article 39.

Thus we recommend the following actions to be taken subject to information received

1) Close down/ liquidation

18 enterprises having altogether 35 046 employees Annex A

2) Prepare for leasing and joint ventures thru restructuring

15 enterprises having altogether 15 798 employees Annex B

ATTACHMENTS: Annex A
Annex B
Detailed List of MIC enterprises]

CC. Mark Huang

UNCLASSIFIED

Foreign Language

Ministry of Industry & Minerals

Foreign Language

Foreign
Language**info**

From: "mohamad tofi" (b)(6)
To: "info" (b)(6)
Sent: 25
Subject: Re: power generation

Mrs Salma
 Dr Waleed

Ask (b)(6) & our Legal Dep. Is it legal for me to do so.
 Saturday I will be in Baghdad. Mohamad

info <info@iraqiindustry.com> wrote:

Att.: H.E. the Minister

Sub.: Power Generation

Dear Sir,

You are kindly requested to give your approval to change the power generation plant from Southern Fertilizer Co. to Al-Qaem Cement Plant to provide electric power to both Al-Qaem Cement Plant & Phosphate Co. & cover their minimum requirements of 35 megawatt electric power.

Price (3.18 cent/ Kw-h) same as previous minimum price in favor of Aksa Co.

The advantage of Hancock they don't want bank guarantee & they confirmed this by a letter while Aksa (which did not sign the Al-Qaem contract) demanded the full opening of bank guarantee for the value of 3.3 million u.s.\$ valid for 5 years to be able to start after signature of contract.

You are kindly requested to give your approval to contract with Hancock Co. instead of Aksa Co. at the same rate of 3.18 cent/ Kw/h & with no bank guarantee.

A waiting your approval

Regards..

Mr. Salma Dawood Jabo

Dr. W.

27/03/2004

Hancock Overseas Corporation



214 Foreign Language
2004/2/28 :

Foreign Language

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e-mail :enerji@aksa.com.tr

**MINISTRY OF INDUSTRY AND MINERALS
BAGHDAD / IRAQ**

18.03.2004

SUBJECT : CONTRACT OF POWER PLANTS (AL – QAIM & BADOOSH PLANTS)

Dear Sirs,

Regarding our meeting in your esteemed Ministry on 15th Of March 2004 , please note that in order to get credit from the banks for such a kind of big projects , it is very important for us to receive bank guarantee before starting the job . For that reason we are sorry to mention that we can not accept any bank guarantee less than mentioned in the contract (for Badoosh) and we can not accept any bank guarantee which would be issued 6 months after the installation (For Al – Qaim)

Yours Sincerely,

Emre Sayer

Ministry of Industry & Minerals

Foreign Language

Foreign Language

To / AKSA Enerji Uretim A.S.

Sub. / Electric Power Supply

In reference to our tender of the 14th October 2003 for the supply of electric power to the nine sites specified in the tender. We hereby inform you that your proposals for the supply of electric power to the following sites have been accepted (subject to contract formulation and signature).

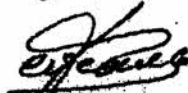
Alqaem Site	60 MW	@ 3,18 Cents/Kwh
Kubaisa Site	43 MW	@ 3,18 Cents/Kwh
Badoosh Site	55 MW	@ 3,18 Cents/Kwh

Kindly, present the detailed technical specifications of the power plant that you are going to provide, outlining the parameters to be guaranteed and test runs to incorporate those in the contract form.

We are looking forward to meet your authorized representative for contract formulation on the 15th December 2003.

Awaiting your confirmation.

Regards



Yours sincerely

F. D. Murad



Foreign
Language

NO.	Site	Power MW	First price C/KWh	Named Co.	Second price C/KWh	Named Co.	Third price C/KWh	Named Co.	Nominated Co. for the Site
1	AlQaem phosphate	60	3.18	AKSA	3.55	GENGIZ	3.79	YAPA RASA	AKSA
2	Kubaisa	43	3.18	AKSA	3.75	RASA	4.10	GENGIZ	AKSA
3	Sinjar	35	3.19	RASA	3.47	YAPA	3.59	AKSA	RASA
4	Badoosh	55	3.18	AKSA	3.29	YAPA	3.70	RASA	AKSA
5	Muthana	35	3.19	HANCOCK	3.83	RASA	4.10	YAPA	HANCOCK
6	Karbala	35	3.22	RASA	3.81	YAPA	4.10	YAPA	RASA
7	Kufa	34	3.40	YAPA	3.79	RASA	4.29	AKSA	YAPA
8	Rubber & Textiles Diwania	11	3.19	HANCOCK	3.49	AKSA	3.85	RASA	HANCOCK
9	Southern fertilizer	25	3.19	HANCOCK	3.75	GENGIZ	3.88	YAPA	HANCOCK

Foreign
Language

FUEL (3.26)	MINIMUM PURCHASE (3.27)	PERFORMANCE SECURITY (ARTICLE 7)	SERVICE CHARGE (ARTICLE 21)
225 gr/ kWh free of charge	35.750.000 kWhs/month	Performance security:\$4.547.000 (from trade bank of Iraq)4 months \$13.642.200 (from Iraqi central bank) a year	60 MW - 35.750.000 kWhs/ month
225 gr/ kWh free of charge	27.950.000 kWhs/month	Performance security:\$3.555.240 (from trade bank of Iraq)4 months \$10.665.720 (from Iraqi central bank) a year	43 MW - 27.950.000 kWhs/month
225 gr/ kWh free of charge	21.000.000 kWhs/month	Performance security:\$2.679.600 (from trade bank of Iraq)4 months \$8.038.800 (from Iraqi central bank) a year	35 MW-21.000.000 kWhs/month
225 gr/ kWh free of charge	21.000.000 kWhs/month	Performance security:\$2.704.800 (from trade bank of Iraq)4 months \$8.114.400 (from Iraqi central bank) a year	35 MW - 21.000.000 kWhs/month

CONTRACT NAMES	PURCHASER (3.3)	CAPACITY (3.14)	MONTHLY PERFORMANCE VALUES (3.21)	MONTHLY PAYMENT FOR ELECTRIC (3.24)
AKSA ENERJI	NORHTERN STATE CEMENT COMPANY, BADOOSH FACTORY	60 MW	35.750.000 kWhs/month	3.18 USA cent / kWh
AKSA ENERJI	NORHTERN STATE CEMENT COMPANY, KUBAISA FACTORY	43 MW	27.950.000 kWhs/month	3.18 USA cent / kWh
RASA ENERJI	IRAQI CEMENT STATE COMPANY SANJIR FACTORY	35 MW	27.950.000 kWhs/month	3.19 USA cent / kWh
RASA ENERJI	SOUTHERN CEMENT STATE COMPANY, KARBALA FACTORY	35 MW	27.950.000 kWhs/month	3.22 USA cent / kWh



AKSA Enerji Üretim A.Ş.
Gülbahar Cad.1.Sokak Güneşli 34540,İstanbul-TR
Tel : (0212) 550 53 36 Pbx
Faks : (0212) 657 55 51 – 550 53 38
e-mail : aksa_baghdad@yahoo.com
enerji@aksa.com.tr
emre_sayer@yahoo.com

REPUBLIC OF IRAQ
MINISTRY OF ELECTRICITY
IRAQ

21.01.2004

Subject: Offer for Power Plant Invitation (3)

Dear sir (s),

We as Aksa Group of companies , are based in Turkey are one of the largest group all over the World working on generator and energy business .

We do manufacture generator sets of all kinds at our factories with a total 60.000 sq m covered area .

We built and are operating 8 power plants with a total output of 300 MW for the last five years under build and operate (B & O) contracts .

We are active in Iraq for the last five years on generator business with our office in Baghdad and our dealers .

We are giving our offer for your needs of 340 MW power plants with attached alternatives .

We are ready to invest in Iraq on energy projects .

We have financial capabilities for the investment , ready to ship equipment and experienced personnel for erection and operation.

We are ready to explain and give more details about our offer to your esteemed Ministry .

Yours Sincerely

AKSA ENERGY PRODUCTION CO.

Enc : - Answers to technical requirements

- **Commercial Offer**
- **Reference List**
- **Scope of Supply**
- **Drawings**

E-MAIL : enerji@aksa.com.tr / aksa baghdad@yahoo.com

emre_sayer@yahoo.com

Thuraya : 00 88 216 333 05 108

COMMERCIAL OFFER**A. TECHNICAL CONDITIONS**

Mainly the prime movers will be 20 Wartsila 18V46 engines which corresponds to 350 MWe total output. The following conditions are considered:

Altitude:	100 m
Maximum ambient temperature:	50°C
Minimum ambient temperature:	-5°C
Average ambient temperature:	30°C
Generator Voltage:	15 kV
Frequency:	50 Hz
Power Factor:	0.8
Service Voltage:	400 V
Fuel Type:	HFO #6
Fuel Viscosity(max)	700 cSt
LHV of the fuel:	40.000 kJ/kg
Charge Air Cooling Water Temperature	40°C
Fuel-oil consumption	225 gr/kWh
Lubricating-oil consumption	1 gr/kWh

B. GENERAL CONDITIONS

1. Power plant area will be provided by buyer.
2. Aksa is not obliged to provide emission treatment and control units.
3. The exemption of all taxes, duties, charges fund, VAT and contract contributions, work and import permissions, insurance and income taxes of all personnel working during deployment shall be borne by the buyer.
4. All security conditions must be supplied by buyer during the deployment period.

C. DELIVERY

The installation will be completed in 3 phases after the payment:

- The first group of 7 engines within 6-8 months
- The second group of 7 engines within 8-10 months
- The last group of 6 engines within 10-12 months

D. VALIDITY

Our offer and conditions is valid until February 2004.

ALTERNATIVE-1**TURN-KEY OFFER****A. GENERAL**

The Power Plant will be installed and delivered on turn key basis in 3 phases according to the given delivery program.

B. PRICE

The turn-key price of 350 MW Power Plant is 230.000.000 Euro (Two hundred thirty million Euro)

C. PAYMENT TERMS

- %25 of the total amount will be paid within 2 weeks after the contract signature against the advance bank guarantee.
- %65 of the total amount will be paid up on the shipments of the equipments under a confirmed acceptable letter of credit opened at the time of the advance payment.
- The remaining %10 shall be paid after the completion of the erection under the same letter of credit.

ALTERNATIVE-2

BUILD AND OPERATE (BO) OR BUILD, OPERATE AND TRANSFER (BOT) OFFER

A. GENERAL

- The Power Plant will be installed and operated in BO or BOT basis in 3 phases according to the given delivery program.
- The Power Plant will produce 200.000.000 kw.hr/month energy.
- The fuel-oil, diesel-oil will be provided by free of charge by buyer.

B. PRICE

The unit hiring price by buyer in return for the placing the power plant with a capacity of 350 MW keeping it in good operating conditions in such a manner as to satisfy the performance values, activities and services by Aksa for the equipments is, 3,790 EURO ¢/kWh.

C. PAYMENT TERMS

%10 of the total contract value shall be paid 2 weeks after the signature of the contract against advance bank guarantee letter . These amount will be deducted from monthly invoices during first 2 years operation . Invoices shall be issued on monthly basis. Aksa will prepare the invoice at the first day of the next month for the related month in EURO and will deliver to buyer. The payment must be done in 1 week period after the delivery. If the payment isn't done in 1 week period, powerplant operation will be stopped and the amount will be collected from the bank guarantee.

D. BANK GUARANTEE

A bank guarantee from an American, European or a Turkish Bank must be provided for the amount of 2,5 year production hire price in EURO by buyer.

E. TERMS FOR BO AND BOT

Hiring period of the power plant to buyer is 84 months (7 years) for Build and operate option (BO).

The ownership of the Power Plant can be transferred for the hiring of 144 months (12) years with the same price conditions as Build, operate and transfer option (BOT).



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emre_sayer@yahoo.com

ANSWERS TO TECHNICAL REQUIREMENTS

- 1 . 20 units low speed 500 rpm. Diesel generators with output capacity of each 17,5 mw will be installed on one of three locations giving total power of 350 mw.
2. Substation equipment 132 kv suitable for above items .
3. The diesel generator sets will run with fuel oil with your attached
 - Salahhaddin refinery fuel oil
 - Middle refinery No.1 fuel oil
4. Supply of all required base auxiliary equipment for skids including , fuel tanks (for 15 days) , fuel forwarding with filtering skid ,... etc .
- 5 . The planning date of achievement and the job completion is 6-12 months after payments .
6. Complete remote control equipment in order to operate & monitor the power plant
7. Communication & SCADA
- 8 . Fire fighting system for the units & power plant
9. Testing equipment tools analyses for heavy fuel oil .
- 10 . Administration and required spaces for mechanical & electrical work shops .

11 . Two weeks of training for operation and maintenance .

12. General Information

**a- Location of the new power plant is " Near Baghdad East" or "Baghdad East"
" S / S**

b – Ambient temp. Max. (50 C) Min. (-5 C)

c- Humidity 50 %



ULTRA Group

Baghdad

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Beirut & Dubai

Herndon, VA

Ultra Group began building Coalition base camps to gain experience and establish a track record. We worked in the most challenging environments and came to know, first hand, local conditions and local companies. In our next stage, we developed partnerships with local companies that proved to be reliable, solid, Coalition-friendly, well established in the region and able to grow according to future opportunities in Iraq and the Ultra's vision. Since we tend to operate in the dangerous areas - we do this safely because we use local companies that are strongly integrated and established in the region in addition to our stringent security precautions.

This business model allows us to expand our field of operations and enable local companies. Some projects may be too large or technologically sophisticated for our local partners. For this reason we use US and Turkish companies and suppliers willing to work with local companies. Turkish companies are especially relevant since they have pre-war experience in Iraq and centuries of historic ties, are cost-effective, and are willing to work in this environment over the long term; we believe that many projects require a service commitment that western companies are not able to offer for security reasons and long-term comfort-requirements. Turkey also serves as an excellent Islamic role model for the development of Iraq. In addition, Turkey is the industrial powerhouse in the region and Turkish companies are renowned worldwide for construction and engineering. The changes in Turkey over the past 20 years mirror the changes that are taking place in Iraq today and will take place in the future.

Ultra Group effectively offers comprehensive solutions for the development and reconstruction of Iraq. Our experience and adaptability allow us to satisfy our clients in a timely manner without compromising security. We enable Iraqi companies to become players in large and small projects reconstructing and developing Iraq. Our group provides the management, cohesion, financial support, know-how and contacts to get the job done.

Here are our group's lines of work:

- Construction and engineering – projects from \$50 thousand to \$200 million – reconstruction, refurbishing and new construction - roads, dams, bridges, water works, factories, hotels and apartments, residential developments...
- Health care industry – pharmaceuticals, consumables, refurbished and new equipment with guarantees, equipment maintenance and repair work, training in both Iraq and Turkey.
- Security and force protection – demountable guard booths, anti-mortar shelters for containerized housing / office units, convoy security, surveillance systems for prisons, base camps, government buildings, hospitals,...
- Environmental engineering – waste water treatments systems and plants and repairs, water purification systems, ...
- Power generation supply – 10 KVA generators to 200 MW power stations – diesel and gas turbine.
- Oil and gas field supply – pumps, valves, pipes - light and heavy supplies.
- Oil and gas field development – oil and gas field investors potentially interested in developing oil and gas fields.
- Public relations – western management, western sophistication, western friendly – the first in Iraq.
- Furniture supplies specializing in desks and chalkboards for schools, office furniture and auditorium furniture, lockers, filing cabinets...
- Specialized trucks and heavy construction machinery – fire engines, ambulances, 46-seat buses, mini-buses, lifting, storage and transportation vehicles.
- Trade in food and beverages from Turkey – frozen, canned, de-hydrated; industrial sizes.
- Textiles – uniforms, boots, shirts for the Iraqi Army, Iraqi Police – sewn in Iraq according to NATO standards.
- Services for the Coalition Base camps – catering, generator maintenance, water supply, garbage collection and disposal, sewage disposal.
- Rest and relaxation resorts in Southern Turkey – 5-star, excellent food, mountains, nature, beaches, Roman ruins, yachting, scuba & snorkeling, nightlife, cultural events – complete packages from Incirlik - 5 to 10 days.
- Consulting.

Regards,
John Dawkins
Ultra Services – President

Contact: john@ultra-services.com or info@ultra-services.com
www.ultra-services.com

CONTRACT
FOR HIRING OF POWER PLANTS
AND THEIR OPERATION
THROUGH PURCHASE OF SERVICE

A handwritten signature in dark ink, consisting of several stylized, overlapping loops and strokes, located in the bottom right corner of the page.

CONTRACT FOR HIRING OF POWER PLANTS AND THEIR OPERATION THROUGH PURCHASE OF SERVICE

ARTICLE 1- PURPOSE

The object of this contract is to sell electric power from power plant with total capacity of 55 MW, in Badoosh region, according to the terms and conditions hereof, the contractor shall install, operate and maintain it to supply the generated electric power to Purchaser.

ARTICLE 2- SCOPE

The scope of this Contract consists of the geographical location of the power plant subject to hiring in the Badoosh region and the principles regarding its hiring by Purchaser, and operation by the Contractor by way of generation and sale of the generated electricity, delivered or made available by the Contractor at the power plant to the Purchaser according to the provisions of this Contract.

ARTICLE 3- DEFINITIONS

3.1. MIM

It means the Iraqi Ministry of Industry and Mineral.

3.2. MOE

It means the Iraqi Ministry of Electricity.

3.3. PURCHASER

Northern Cement State Company, Badoosh Factory

3.4. CONTRACTOR

It means the firm AKSA ENERJİ URETİM A.Ş. who shall operate the power plant in order to generate electricity and sell the generated electricity to Purchaser and MOE and accepts and undertakes the services specified herein.

3.5. PARTIES

One of the party of this Agreement is Iraqi Cement State Company, Badoosh Factory together with MOE which will, hereinafter, be referred to as Purchaser and the other party is AKSA ENERJİ URETİM A.Ş. which shall be referred to as Contractor.

3.6. AUTHORISED REPRESENTATIVE

The Contractor will assign the person (or the persons) who is (or are) authorized to represent the contractor within 15 (fifteen) days at the latest after this Agreement takes effect to carry out the works within the scope of this Agreement and be in charge thereof towards Purchaser (the Contractor shall notify Purchaser of the name and title as well as the address of the representative he designated this purpose.)

3.8. DEPLOYMENT

Construction of power plant at Badoosh region means, construction of the plant and connecting it to the substation, and erection of the equipment in such a way that they will be ready for operation.

3.9. GRID (SYSTEM)

It is the national electric power generation and transmission (interconnected system) system operated by MOE.

3.10. PROJECT APPROVAL

Contractor shall present within 10 days from the signature of the contract the following documents for approval. MIM, MOE & Purchaser shall give their approval or comments & return to contractor within 15 days from day of receipt

- Single line diagrams of the system and method of connection to substation.
- General location layout and the deployment area of the power plant.
- Technical documentation related to contractors equipment for the power generation plant and technical parameters of power generation plant in case of delay in approval by MIM, MOE & Purchaser the time schedule shall be extended accordingly in case of delay by contractor in presenting the documents or completing the information the additional time shall not affect the commencement date of power supply.

3.11. COMMENCEMENT DATE OF WORK

The Commencement date of work is 15 days after the signature of the contract with the following being completed:

- The handing over of deployment area for the power plant by Purchaser as per approved layout and single line diagram. Any delays of the deployment area the deployment time shall be extended by additional time.
- The exchange & handing over of mutual performance securities which shall be presented by both sides. Any delay for the handling over the performance security that the Purchaser has to give to the Contractor, the deployment time shall be extended by additional time equal to the delay period. In case of delay by Contractor in presenting the performance security to the Purchaser, additional time shall not affect the commencement date of power supply.

3.12. COMMENCEMENT DATE OF HIRE

It is the date on which, the acceptance protocol is, upon successful completion of the acceptance tests at the facilities, signed by the Acceptance Committee formed in compliance with the Contract, and the facility is put into service and power is supplied accordingly.

3.13. ACTUAL EFFECTIVE SERVICE PERIOD

It is the time period, after the Commencement Date of power supply & continues for 60 (sixty) months.

3.14. CAPACITY OF THE FACILITY

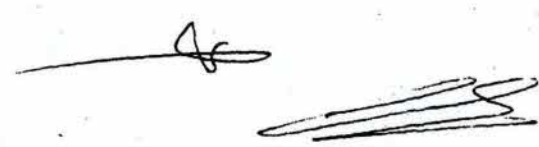
It is capacity level of 60 MW of the Facility which is determined with respect to the maximum constantly produceable capacity level at the Facility, on the basis of minimum heat value of the fuel without performing any maintenance work other than that previously defined by normal maintenance procedures and also without the necessity of special measures and special operator attention.

3.15. MEASUREMENT GROUPS

The measurement system at the Facility for the measurement of the net kWh delivered to the system, consisting of meters, current and voltage transformers feeding thereto and the secondary circuits.

3.16. MEASUREMENT POINT

The location of connections of current and voltage transformers, feeding the meters of measurement groups on which kWhs delivered to the systems are measured.

3.17. kWhs DELIVERED TO THE SYSTEM

The net amount of electrical energy generated at the Facility and measured at the Measurement Points and sold to the Purchaser.

3.18 REGIONAL LOAD DISPATCH CENTER

It is Load Dispatch Center in the region where the facility is located and to which the Contractor will contact for the execution of service and a telecommunication system shall be installed between power plant and substation by the Contractor.

3.19. MOE AUTHORISED PERSONEL

The officials of the related MOE in the location where the Facility deployed therein, is situated.

3.20. UNIT

Each generation unit, which comprises the Facility and connected via contractors' busbar to the system as per MOE's approval.

3.21. MONTHLY PERFORMANCE VALUES

It means the monthly net electric power generation, which is based on the capacity of facility (55 MW) multiplied by monthly operating period guaranteed by the Contractor (minimum base load is 35.750.000 kWh/month) for each month during service period. A monthly program shall be agreed upon as per Article 13.2 between two parties.

3.22. FACILITY

It means the power plant consisting of power generation units, automatic control system of power plant, switchgear between the power plant and substation, fuel treatment units and its associated equipment which will be deployed by the Contractor at Badoosh Region. Fuel storage tanks, water supply will be provided by Purchaser.

3.23. ACCEPTANCE COMMITTEE

The Acceptance Committee will be formed by Purchaser, MOE and MiM for the acceptance of the facility.

3.24. Monthly payment for electric power

It means the monthly net payments (in USA Cent/kWh) to be made by Purchaser per kWh net active energy which is generated and received and is measured by the metering system in such plant multiplied by the unit price of 3.18 USA cent / kWh in return for the services of contractor placing the power plant with a capacity of 55 MW in Badoosh region, in such a manner as to satisfy the performance values, keeping the plant in good operating condition and guaranteeing minimum base load for the duration of 5 (five) years of operation according to the contract terms.

And these payments should be transferable to the other countries without any deduction of taxes (except income tax) and charges ...etc. additional to the normal bank transfer fees.

3.25. EXCESS GENERATION

In the event that the total amount of monthly electricity generation is more than the monthly amount guaranteed by the Contractor, the difference between the guaranteed amount and the actually generated amount is considered excess generation and any additional power supply to Purchaser and / or MOE should be paid.

3.26. FUEL

Heavy Fuel Oil (Banker C) of which specification have been provided in Annex 2 with a quantity of 225 gr / kWh and that will be provided to Contractor free of Charge by the Purchaser.

3.27. MINIMUM PURCHASE UNDERTAKING

The minimum quantity of electricity that the Purchaser are obligated to purchase from the Contractor in one month pursuant to this Contract, which is 35,750,000 kwh / month.

ARTICLE 4- PRINCIPLES

Provide electric energy continuously all through the 24 hours of a day/month/year and service continuity are the essential requirements for the services to be provided in the Facility defined in this Contract. The Contractor shall make maximum efforts and sacrifice in respect of the services he will render in order to achieve highest level of benefits and efficiency.

ARTICLE 5- CONTRACT LANGUAGE

This Contract and its annexes and all forms shall be prepared in English and written Communications and discussions to be held between the parties shall be made in English and this English text shall be accepted as the binding document.

ARTICLE 6- TERM OF CONTRACT

The term of the Contract is 64.5 (sixty four point five) months from the Commencement Date of Works. Of this duration, 4.5 (four point five) months' are for the deployment of the plant, connection to the factory substation by the Contractor according to the provisions of this contract, and hence the actual effective service period is 60 (sixty) months. If the Contractor complete the deployment period before 4.5 months this period will be added to the 60 months actual effective service period. During this period, the Contractor shall take all possible measures to execute the work as contemplated.

The Contract can be extended, subject to mutual agreement with the mutually agreed terms, if the contract will not be extended the Contractor has right to disassemble all engines and related equipments and send out of the country .

ARTICLE 7- PERFORMANCE SECURITY

The Contractor shall give to Purchaser a bank guarantee amounting 3 (three) % of the minimum annual base load price in USA \$, as Performance Security with 12 (twelve) months validity. The Bid Security presented by the Contractor shall be returned with the presentation of this Performance security of Contractor. This performance security of Contractor shall be returned to the contractor at the end of the validity date.

Purchaser shall give to Contractor a Performance security with the amount of 4,547,400 USA Dollars (Say four million five hundred forty seven thousand four hundred US Dollars only) , (which is the multiplication of base load kWh with plant power and price for four months) with one year validity renewable for 5 years with the same full amount in the form in Annex 1.

The performance security to be given by Purchaser must be given from Trade Bank of Iraq (TBI). If Purchaser could not succeed to issue a performance security from Trade Bank of Iraq (TBI) then, the performance security to be given from the Iraqi Central Bank with the endorsement of Iraqi Ministry of Finance. with the amount of 13,642,200 USA Dollars (Say thirteen million six

hundred forty two thousand two hundred), (which is the multiplication of base load kWh with plant power and price for one year) with one year validity renewable for 5 years
This Performance Security shall be released after immediately up on completion of contract period.
Payment of monthly dues shall be made with in as per article 23 in case of delayed payment of monthly charges the contractor will receive the payment in cement at for international prices.
The alternative to be considered shall be decided within 15 days after date of signing the contract.

ARTICLE 8- INSURANCE AND SECURITY

Issuance of insurance against all sorts of risks related with the subject work and facility of the Contract, and all necessary procedures and expenses related to the said insurance shall be under the liability of the Contractor.

During the period of transportation, installation and operation it is the liability of Contractor to protect the equipment however Purchaser shall render assistance with their authorities MIM, to help providing the necessary protections.

All kinds of help and support will be given to the Contractor about issuance of insurance against transportation, fire, breakdown and sabotage and providing security.

ARTICLE 9- TAXES and DUTIES

The exemption from all taxes, duties, custom duties, charges, fund, VAT, and contract contributions, and all other similar expenses, which may result from the signing of this contract, shall be covered by Law 20 of 1998 & the order of the coalition provisional authority no. (39) of 19/9/2003 concerning the foreign investment in Iraq.

The exemption from the income taxes up to 30% only as per law 20 of 1998 article 4.

All necessary permission for import and export of equipments, parts and consumables, temporary importation of the equipment and the construction equipment, and all work permissions of the construction and operation personal shall be provided by MIM.

The Contractor shall be free to transfer their income and all profit except income tax from this contract to outside of the country.

ARTICLE 10- COMMENCEMENT DATE OF HIRE AND DELAY OF WORK

The date of signature of the acceptance protocol by the acceptance committee after completion of performance tests on power generation plant shall be the commencement date of hire & the month after this date shall be taken as a basis for the commencement of monthly payments for actual electric power supplied by contractor.

During the deployment time Contractor will construct the plant and connect it to the Grid and will make the plant ready for testing and operation. Purchaser, MIM and MOE will provide the necessary permissions and lodging for operating staff only and, for the purposes of electricity generation, provide the fuel tanks, fuel (225 gr /kWh), water (30 m3 / hr) free of charge which is sufficient for generating electricity at least for consecutive 15 [fifteen] days and quality as per attached specifications

The date of commencement of hire shall not exceed 4.5 months started when the contract coming in force in case of delays the following shall be taken in to consideration:

10.1- From the Commencement Date of Work specified in the Contract, delays due to the reasons that originate from the Force Majeure events the necessary time extension will be given as per Article (24).

10.2- If any delay occurs due to the reasons originate from the Contractor, the Contractor notifies MIM in writing the reasons of the delay.

The delay penalty will be calculated by multiplying minimum base load in kWh with hire fee for the delayed period shall be applied to the Contractor. Applied total annual penalty can not be more than 7% of the yearly contract price based on the base load at the rate of 0.5% / week.

- 10.3-** If facility is ready for acceptance test the contractor shall give two week notice to Purchaser of his readiness to conduct acceptance test. In case MOE, MIM and/or Purchaser is not ready to get energy, Purchaser shall pay price of energy multiplied by minimum base load in kWh bases for the time of delay to the Contractor.

ARTICLE 11- WORK SCHEDULE

The Contractor shall carry out the work within the scope of this Contract in accordance with the conditions hereof and on the dates specified in the work schedule attached. In case of emergence of any one of the conditions set forth in the article of force majeure, which adversely affects achievement of the dates in the work schedule, both sides shall meet to discuss the mater.

11.1. SYSTEM CONNECTION

The line required for the connection shall be designed by the Contractor. All related documents and information for the system in operation which will enable the Contractor to make connection to the system, will be provided by MIM, MOE and Purchaser. The single line diagram prepared by contractor shall be approved by Purchaser MOE before contract signature.

ARTICLE 12- RECORDING OF INSTRUCTIONS AND SUBMISSION OF METERING INFORMATION

The Contractor shall comply with the instructions given by MOE and Purchaser and inform the related such centre, by a letter handed over to Purchaser or other similar communication means, of the following data to be utilised by MOE for statistical or system control purposes. These are:

- Values recorded by energy meters,
- Active power and reactive power values received from and supplied to the grid and voltage values (P, Q and V)
- Other information on electric power system to be provided whenever requested by the MOE's authorised personnel and at intervals mutually agreed upon.
- Direct telephone communication between contractor & MOE substation.

ARTICLE 13- ANNUAL, MONTHLY PROGRAMS

13.1 ANNUAL PROGRAM

The Contractor guarantees the provision of annual program values in accordance with the following conditions:

- Estimated and net annual, monthly, weekly electrical energy generation amounts for each unit
- Estimated forced outage period
- Estimated commencing and terminating dates of programmed outages such as maintenance and inspection, revision
- A loading programme to be submitted by Contractor and approved by Purchaser before commencement of Power Supply.

13.2 MONTHLY PROGRAM

The Contractor may revise the monthly generation program, contemplated in the annual energy generation program prepared within the contract term according to Article 13.1. every month for the month that follows it. Monthly revised generation program shall be informed to Purchaser in writing by the Contractor by the 25th (twenty fifth) of the month that proceeds the month it is arranged for. Any revision in monthly program shall be approved by Purchaser.

ARTICLE 14- OPERATING PRINCIPLES

The Contractor is obliged to work in harmony with the system and comply with all the conditions set forth in this Contract. The total of the electrical energy generated in the Facility and the utilisation right thereof are at MOE's disposal. The Contractor shall provide services at the Facility, in such a manner that it shall generate electrical energy for 24 hours per day in line with the



operation-maintenance instructions and requirements of Purchaser and shall insure direct communication with substation.

The operation, maintenance and repair service to be provided at the power plant shall be carried out by the personnel whose qualifications and numbers are in consistent with those prescribed therein.

The Contractor shall take all the measures concerning the execution of operation and maintenance services in an effort to maintain the electrical energy generation at its highest level to cover Purchaser requirements. Acting as an efficient and economic operator and making full use of the available capacity are the main aspects for which the Contractor shall be responsible.

The Purchaser and MOE will take all the measures to get and distribute the energy produced by the facility and to protect Contractor's system from any failures which may arise from Purchaser and / or MOE System.

. The operating parameters shall be in conformity with MOE's regulation for 14.1, 14.2 & 14.3.

14.1. Power Factor

The units shall operate under excited or over excited within its $\cos\phi$ rating and limits of load capability curve, whenever needed by the system. As per MOE's specifications of power factor lagging 0.85 leading 0.95.

14.2. Synchronisation

All kinds of arrangements for entering into parallel with grid shall be installed on the facility side while the arrangements of voltage and frequency conditions will be provided by MOE, also the facility shall be design in such a manner that when the electricity is out of in the network, facility shall take over units and supply electricity to substation with the load steps of the units. The load management and the protections are MOE's responsibility. [The grid synchronisation with necessary protections over facility is MOE's responsibility] MOE.

14.3. Voltage and Frequency Ranges

Facility voltage specification will be the 33kv bus bar voltage +/- %5, and frequency specification will be 50 Hz -2%, +1%. operating parameters subject to MOE's approval. The contractor shall take all necessary precautions to avoid power fluctuations coming from the facility.

ARTICLE 15- CHANGES IN OPERATING CONDITIONS

A system failure in the grid, which may affect the operation of the Facility, and estimated duration thereof, shall be promptly notified by MOE to the Contractor by direct telecommunications between plant & sub-station.

Purchaser is responsible for supplying fuel free of charge mentioned in Article 3.26 in case of exceeding fuel consumption rate by the contractor the additional amount shall be paid at current local prices with the attached fuel specification in Annex 2. Fuel specification should be certified for each shipment. If the fuel quality is not complying required fuel specifications and in case of bad quality interruption in supplying fuel, It shall be replaced with an acceptable fuel type .

Both side shall notify each other in case of failure or any unscheduled inspection and maintenance or other events affecting the generation capacity (type, natural probable causes, estimated duration and remaining available capacity of the unit and the works done etc. shall be covered by the information to be given and these shall be confirmed in writing subsequently.)

ARTICLE 16- DEVICES RELATED TO THE FACILITY AND GRID

The Contractor shall supply and assemble at its own cost, the system within the premises of the Facility and up to the point of connection, all communication, protection, control measurement and similar devices and systems. The Contractor shall receive the relevant technical information from MOE and Purchaser.



MOE and Purchaser will provide the data requested by the Contractor regarding the earthing protection, over current protection, load priority sequence and design fault level of the system within the period mentioned in Article 3.10. MOE will make necessary arrangements for the connection of the facility.

The approval of the single line diagram shall fix all basic parameters by MOE.

ARTICLE 17 -DEFINITION OF ELECTRICAL ENERGY TO BE BASED ON FOR DETERMINING SERVICE CHARGE

17.1. In calculating the price of the service provided by the Contractor within the scope hereof, only the amount of net active energy generated shall be taken into account.

17.2. The electrical energy which forms the basis for the hiring charge is the net active energy delivered into the power system & measured by the metering system from the line or lines at the outgoing terminal of the Facility.

In cases when the plant cannot make energy generation for any reason born from the Purchaser ;
-lack of fuel and water
-lower power consumption in the Grid and/or Cement Factory
-any breakdown in the power lines and/or equipment that are in Purchaser's and / or MOE's responsibility or any other causes similar with the above] except cases of force Majeure that may affect any of above.

the Contractor will still have the right to invoice based load times hire fee per kWh at the end of the month regardless of how much power is consumed by the Purchaser and Purchaser' will pay the amount to the Contractor corresponding to the minimum monthly purchase undertaking.

ARTICLE 18 -ELECTRICAL ENERGY DELIVERY CONCERNING POWER PLANT OPERATION AND MAINTENANCE HIRING CHARGE

The measurement point of the electrical energy to be delivered by the Contractor to Purchaser shall be, in principle, at the HV outgoing side of the power plant's step-up transformer.

Locations, types of connections and, in case of necessity, directions of the measurement groups, shall be determined & decided by the Contractor's and MOE and Purchaser' s authorised staff together.

ARTICLE 19- ACCEPTANCE PROTOCOL AND PUTTING THE FACILITY INTO SERVICE

Upon the successful completion of the tests that are specified by Purchaser and the Contractor, a test report shall be drawn up by the test committee; thereby the acceptance shall be done by the Acceptance Committee or incase of deviation to decide the repetition of tests.

The preparation for the grid and consumers, for the tests that must be done before the Acceptance Tests, belongs to MIM, MOE and Purchaser. The time period of pre-test that cannot be done due to unprepared grid and consumers, will be added to the deployment period of the plant.

An acceptance protocol shall be drawn up by the Acceptance Committee and the facility shall enter into service on the date of signing of the acceptance protocol and the Commencement Date of Hire shall have started with commencement of power supply.

ARTICLE - 20 TEST FOR THE POWER GENERATION FACILITY TO DETERMINE ITS READINESS FOR OPERATIONS

After the deployment of the facility, test shall be performed by a test committee consisting of MIM' s, MOE's , Purchaser's and Contractor' s staff in order to ensure its commissioning on the date set forth in the Work Schedule and mutually agreed upon. This test is Capacity Utilization Test.

A achievement of electrical parameters within standards specified my MOE.

During this test, the facility shall be operated 24 (twenty four) hours without interruption. During test in the event that the facility runs out of service due to causes attributable to the Contractor, the Capacity Utilization Test shall be repeated from the beginning.

ARTICLE - 21 SERVICE CHARGE

As the price of services it provides within the scope of this contract, remuneration shall be made to the contractor after commissioning of the Facility, for electrical power supplied, in return for the deployment of the facility, connecting thereof to the power system, and keeping it in good operating condition.

The service charge shall be of such amount that it shall include all costs for the deployment, connection to the nearest transmission line and keeping in operation of a power plant with a capacity of 60 MW and annual active net energy generation capability, in the year for which the monthly break-down is given, of 35.750.000 kWh, and shall be expressed in terms of USA Cent/kWh. This charge shall be fixed during the contract period.

Necessary fuel for the operation of this facility such as Fuel - Oil, with specification attached of this contract shall be given by Contractor, for operation of facility, shall be delivered by the Purchaser as a free of charge according to the quantities mentioned in Article 3.26, in the storage tank that shall be constructed by Purchaser. Quantities & specification as per annex.

As the price of services provided by the contractor within the scope of this contract a monthly payment shall be effected by Purchaser to the Contractor based on the Hire Charge in return for per kWh of the net active energy which is generated at the Power Plant according to article 17 and 18 taking into account also the values given for price and base load.

DEFICIENT GENERATION

Due to causes originating from sources other than Force Majeure circumstances or MIM, MOE and/or Purchaser (like breakdown, repair on energy transfer system), if the net active energy amount generated within one-month operating period proves to be less than the amount guaranteed the service charge shall paid for the amount generated, and a penalty shall be applied to the contractor, multiplying the difference between the amount guaranteed and the net active energy generated thereby by the service Charge. (cent/kW h x (Base load - actual load generated)).

EXCESS GENERATION

If, in any month, the Contractor, upon the request of Purchaser and /or MOE, generates in excess of the amount of net active energy in the amount guaranteed, the payment for such excessive generation shall be by applying the Hire Charge.

ARTICLE - 22 INVOICING

22.1. Invoices shall be issued on monthly basis. The meters, which will measure the amount of active energy, generated at the Facility, as well as reactive meter values, shall be read by the representatives of the parties on the day after the last day of each month (the reading data belong to the last day of the month) and a meter reading protocol, a sample of which is provided herewith, shall be drawn up at the site of such a reading on the first day of each month, the Contractor shall issue the monthly invoice of the previous month and deliver it to Purchaser.

22.2. The Contractor shall, on the basis of the index fixed according to Article 17.1 issue an invoice under the title of "service Charge of Facility" and send this invoice to Purchaser.

22.3. The procedures and principles for invoice preparation process as well as the documents to be attached to invoice, shall be determined through a protocol at the stage of entrusting the service to the Contractor.

ARTICLE - 23 PAYMENTS

23.1. The Contractor shall prepare the invoice at the first day of the next month for the related month in terms of USD Dollars, and will deliver to Purchaser.

23.2. After delivery of invoice, Purchaser, shall pay the invoice cost with in 2 (two) weeks period. If the payment date does not coincide with a working day, the payment shall be made on the first working day that follows.

23.3. In event that the payment is not made in full with in 2 (two) weeks period interest rate of Libor + 2 shall be applied to the unpaid part of such payments starting from the due payment date. In the event that this payment for base amount and accumulated interest is not paid within one month, all amount of the delayed payment interest and default base amounts will be collected from the performance security.

And these payments should be transferable to the other countries without any deduction taxes (except income tax as per law 20 for the year 1998 article [4]) and charges etc. additional to the normal bank transfer fees.

23.4. Incase of monthly payments could not be done by Purchaser within the specified time schedule, the Purchaser have the right to make the payment with cement of BS 1296 quality or equivalent instead of cash on FOT Badoosh or another factory basis with the international price of cement on fob basis shall be calculated by taking the average published fob prices of Saudi Arabia, Lebanon and Turkey.

ARTICLE – 24 FORCE MAJEURE EVENTS AND THEIR CONSEQUENCES

Neither party to the contract shall be considered in default and be liable for any loss or damage of any nature whatsoever incurred or suffered by the other party due to omissions delays or default in performance caused by circumstances beyond its control which could not have been reasonably foreseen and provided against by an experienced contractor of employer (as the case may be) in the exercise of due diligence.

Provided always that such party shall continuously exert every reasonable effort to obviate or to minimize such failure.

However, and in all cases force majeure as aforesaid shall not be construed to include any act or circumstance which has been due or is in any way attributable to the contractor or his fault or negligence.

Either party affected by force majeure shall notify the other party of the force majeure and its nature without delay and not later than (14) fourteen days from the occurrence of force majeure. Failure to notify the other party within the said (14) days shall constitute waiver of the rights under this clause.

In case of delays in the fulfillment of obligations caused by force majeure the respective party shall be entitled to claim an extension of the time therefore and the engineer shall determine the extension of time, if any, which shall be reasonable and proper.

In force majeure continues for (6) months, then the parties will meet each other in order to discuss how to complete the works.

ARTICLE – 25 SETTLEMENT OF DISPUTES AND ARBITRATION

In the execution of this contract, for the settlement of the disputes that may arise between purchaser, MOE and/or MIM and contractor, final settlement shall be by arbitration under the rules of conciliation and arbitration of International Chamber of Commerce. The venue of arbitration shall be in Switzerland.

ARTICLE – 26 TERMINATION OF CONTRACT

If the Contractor, after written notification thereto of the defaults identified during the inspections made by Purchaser, fails to take the measures states in such notification with 30 (thirty) days or in case of its non-performance with the provisions of the Contract, or its laying down of work,

Purchaser is entitled to unilaterally terminate the contract without needing any other legal decision, warning or protesting.

In the case of the Purchaser is not performing the contractual obligations and/or to fall default on payments two times consecutively contractor has right to terminate the contract without needing any other legal action after giving a (30) days notice in writing to Purchaser to over come specified items not fulfilled. In this case the contractor has the right to cash the performance security given by the Purchaser to cover his unpaid monthly charges as well as his losses born from the termination of this contract.

Both sides may terminate the contract with mutual agreement if they can not fulfill the corresponding contract obligations.

Incase of termination of Contract, Contractor will get back all equipments and can send out of Country without encountering any bureaucratic difficulties.

ARTICLE - 27 CONFIDENTIALITY

Each party agrees that it shall maintain as confidential and secret all information documents or know-how entrusted to itself by the other party, ensure that their employees, officials and that it shall not disclose them for utilization by the third parties without prior written consent of the other party undersigning the Contract.

ARTICLE - 28 WAIWER

Neither party shall be deemed to have waived any of its rights hereunder unless a written waiver, signed by authorized officials of the waving party, delivered to the other party. Any omission or delay of either party in performing its obligation or rights hereunder shall not be deemed an implicit recognition of waiver.



ARTICLE - 29 NOTICES

All notices of the Parties shall be given in writing and also answered in writing.
The Parties have designated the following contact details with respect to all notices to be served on themselves by other Parties:

To the Purchaser:

Iraqi Ministry of Industry and Minerals

Attention:

Address:

Telephone:

Fax:

Northern Cement State Company, Badoosh Factory

Attention: Address: Badoosh Factory - Iraq

Telephone: 964 33 372 442 (372863)

E-mail:

To the Contractor:

Aksa Eneji Üretim A.ş.

Attention: Mr. Serdar Nişli

Address: Gülbahar Cad. 1. Sokak Güneşli 34540, Istanbul - Turkey

Telephone: +90 212 600 53 36

Fax: +90 212 657 60 51 - 600 53 38

ARTICLE - 30 ADDITIONAL PROTOCOL

Parties may draw up Additional protocols on issues, that are not included herein, but mutually agreed upon, in such a manner that it shall not be substantially contrary to the essence of this Contract. Provisions of the protocol thus drawn up, shall become effective after the approval thereof by the authorities of the parties, and shall be deemed to form an inseparable and supplementary part of Contract.

ARTICLE - 31 Law applicable to the Contract.

The contract shall be and be deemed to be an Iraqi contract and shall be governed by and construed according to the material law in force in Iraq at the time of signature of this contract.

ARTICLE – 32 Compliance with Statutes Regulations etc.

The contractor shall, in all matters arising in the performance of the contract conform in all respects with the provisions of the Iraqi laws, regulations, ordinances and/or by-laws of any local or other duly constituted authorities and which shall be applicable to the works including contractor's equipment and shall keep the employer indemnified against all penalties and liability of every kind for breach of any such statute, ordinance or law regulation or by-Law.

ARTICLE – 33 EFFECTIVENESS OF CONTRACT

This Contract, shall be signed in three copies on the date of .../.../2004 as first indicated above, and shall become effective and the Parties hereto shall be bound by its conditions upon signing by all Parties provided that the Contractor and Purchaser shall submit the performance bonds to each other mentioned in Article 7 which can not exceed 15 days The followings shall be annexed hereto :

Annex 1 Form of the Performance Security
Annex 2 Fuel Specifications
Annex 3 Metering
Annex 4 Single line diagram
Annex 5 layout
Annex 6 test run parameters
Annex : 7 Protocol 1



IN WITNESS WHEREOF, each of the Parties has caused this Contract, consisting of 33 (thirty-three) articles and [9 (nine)] annexes, to be executed in 3 (three) counterparts by its duly authorized representatives on the date first written above.

PURCHASER:

Iraqi Ministry of Industry and Minerals

By: Raisul Murad

Title: Min. Advisor

Signature: [Signature]

By: D.T.W.B. Khudher

Title: Deputy Min.

Signature: [Signature]
31.01.2004

Northern Cement State Company, Badoosh Factory

By: Hussien Mahson Abdel

Title: General director

Signature: [Signature]
31.01.2004

By: _____

Title: _____

Signature: _____

CONTRACTOR:

Aksa Enerji Üretim A.Ş.

By: Emre Sayer

Title: Sales Manager

Signature: _____

By: _____

Title: _____

Signature: _____

AKSA
ENERJİ ÜRETİM A.Ş.
31.01.2004

ANNEX 3.

1. MEASUREMENT PRINCIPLES

The measurement principles for the electrical energy generated at energy generation facilities of Purchaser are as follows:

- 1.1. Technical criteria and other rules to be complied with, for all the meters, are given in the annex hereto.
- 1.2. Measurement groups namely metering devices and measuring transformer cores shall be at the feeding circuits.
- 1.3. Measurement of active and reactive energy shall be established exclusively for service purpose.

2. READING OF METERING DEVICES

The meters shall be read by the representative of the parties at 10 (ten) o'clock on the day after the last day of each month (the reading data belong to the last day of the month), and a meter-reading protocol, a sample of which is provided in the annex hereto, shall be drawn up at the site of such reading. (The form of the meter-reading protocol table shall be finalised during Contract negotiations according to the type of the meter selected.)

3. INSPECTION AND TESTING

1 (one) month prior to the Contractor's actual commencement of work (commencement date of hire), and thereafter at one-year intervals periodically, provided that a notice is issued by Purchaser to the Contractor at least two weeks in advance, accuracy and sensitivity of the measurement system shall be inspected and tested by the two parties' representatives together.

3.1. If at times, other than test dates, either party claims upon inspection, that meters are functioning incorrectly, the contesting party, may request that such meters be tested in the presence of the representatives of both parties. In such a case, the meters shall be tested on a pre-notified and mutually agreed date in compliance with the procedures specified above. If any fault is detected beyond the acceptable tolerances, it is temporarily replaced with an equivalent meter and the dismantled meter is installed in its place only after its calibration on the meter calibration desks. The amount of energy thus incorrectly measured is calculated as specified in Article 18.4 and this situation is established with a protocol.

3.2. If either party claims that the said metering system functions incorrectly, as set in Article 18.3.1. but upon testing, it proves accurate, then the testing expenses are borne by the contesting party.

3.3. In the event that an agreement as to whether or not the metering system functions correctly, cannot be reached as a result of either inspection or testing, the case is caused to be examined by the nearest technical university, competent therefore.

3.4. In the event that one of the parties objects to the result of such an examination, disagreement is resolved according to Article 24.

4. RETROACTIVE ADJUSTMENT

If main meter is found with a broken seal, or if it fails to register, or the measurement made by the meter is found to be inaccurate, the correct amount of the energy within the period of such incorrect

measurements, is determined jointly by calculation, taking into account operating hours, loads and relevant historical data.

ADDITIONAL PROTOCOL NO.1.
TO THE CONTRACT FOR HIRING OF POWER PLANTS AND THEIR OPERATION
THROUGH PURCHASE OF SERVICE

Hereby the parties ; The Northern Cement Company , Badoosh Cement Plant namely "Purchaser" and Aksa Enerji Üretim A.Ş. namely the "Contractor" has agreed for the capacity of the Power Plant and deployment time with the following terms according to the Article- 30 of the signed contract 'for hiring of power plants and their operation through purchase of service' which will be called as an contract .

Capacity of the Power Plant will be 40 MW and the monthly performance value of the Facility will be 26.00.000 Kw.hr/month.

All terms of the contract will be based on this capacity and monthly performance value.

The capacity and the monthly performance value will be increased to the real contract values 2 months after the successful completion of the performance tests of the facility.

All terms of the contract will be applicable based on the real contract after there on.

This protocol have been signed between the parties at

The Northern Cement State Company
Badoosh Cement Factory

Aksa Enerji Üretim A.Ş.



AKSA Enerji Üretim A.Ş.

Iraqi Ministry of the Industry and Minerals

Date

CERTIFICATE OF AUTHORITY

Rasa Radvator San, A.S., hereby assigns John Dawkins to perform the necessary work in order to protect Rasa's rights regarding the contracts Rasa made in Iraq. John Dawkins is not authorized under any circumstance to sign contracts on behalf of the company nor to promise upon the company's resources. John Dawkins's most important task is to find the necessary solutions to correct the issues in the sales contracts which put Rasa under risk regarding the powerplants awarded to Rasa by tender in the below mentioned regions of Iraq.

Sincer 35 MW
Karbala 35 MW

John Dawkins and his team plan to work in coordination with the Ministry of Mining and Minerals, Ministry of Finance, Ministry of Petroleum, CPA (Coalition Provisional Authority) and Western Banks while performing this task.

JOHN CHRISTOPHER DAWKINS

Passport Information
Passport no: 053890249
Date of birth: 09 September 1963
Date issued: 21 Jul 1994
Place issued: San Francisco
Address: Ultra Services
1 Catman Street, Suite A
Marina Del Rey
Los Angeles, CA 90292
Phone: + 88216 611 30554
Bagdat Cell: + 964 790 13725577

RASA RADVATOR
SAN ANONIM SHIRKETI
Mawmawmaw

(b)(6)

From: john@ultra-services.com
Sent: Thursday, March 04, 2004 9:25 PM
To: (b)(6)
Subject: Status Report from a Month Ago Regarding AKSA - FYI

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It is very clear that all parties are working hard to make this project a reality. It is very clear that the investor's risk must be minimized. The CPA does not want the other parties to think that they are not committed to supporting the deal. They are but must go through some procedures to properly support it and make sure the deal is not set up to fail.

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3. We must understand the CPA's perspective and position regarding this project. In addition, we must formulate an effective plan to make sure we get them to do what we want.
4. I must see the contract and the documentation to fully understand the history that will enable me to help find solutions and effectively negotiate with the CPA and Trade Bank of JP Morgan.

Here are my questions, assessments of the situation and relevant information that I gleaned from my talks with CPA:

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Players:
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Jordanian Investor
Ministry of Minerals, Energy, Finance, Fuel
CPA
Trade Bank - JP Morgan

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Procedural Differences

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Lack of Coordination between the Ministries

The Ministries are not organized and on the "same page". They must work more effectively together and coordinate their efforts for the deal to happen.

This deal is far more complex than it is presently treated. Many things must be tied together and several Ministry branches must be brought together, coordinated and be held accountable to fulfill their obligations spelled out in the contract. Otherwise, you have a recipe for potential failure. In particular, the Ministry of Minerals gives a contract, the Ministry of Finance must commit to the contract and commit to find the funds and work with the Trade Bank of JP Morgan to make the \$27m bank guarantee a reality. The Ministry of Finance needs to be assured that the Ministry of Electricity coordinates the project and buys the power. The Ministry of Electricity needs the Ministry of Fuel to supply the oil in the quantities that they promise and at the times they promise - they need this commitment from the Ministry of Fuel. All these ministries are new and not well organized and must coordinate and commit to all the terms needed to make sure the project is a success. If one of them does not deliver, the whole project could fail. This is where the CPA must step in.

The CPA must assure that the right mechanisms are in place to make sure all parties fulfill their contractual requirements. Otherwise, the project could fall apart and the investors have a higher chance of losing money.

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It is clear that the CPA must play the role of gatekeeper and set up commitments that will extend beyond their direct tenure as the governing body in Iraq. The proper procedures, more contract clarity will help insure that the contract will last beyond direct CPA governance of Iraq. This lessens the investor's risk and supports its interests.

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mail2web - Check your email from the web at <http://mail2web.com/> .

(b)(6)

From: john@ultra-services.com
Sent: Friday, March 05, 2004 10:56 AM
To: (b)(6)
Cc: JOHN@ultra-services.com
Subject: AKSA Dialogue Continued

(b)(6)

I realized after the last letter that you were not "dissing me" but rather needed to be plugged into the history of this project.

Please see my responses in CAPITALS below:

Hi John:

Thanks for the information. Are you an Agent for AKSA?

YOU ARE WELCOME

Has there been any movement in this project since this Status Report you sent me was prepared? THE PROJECT HAS BEEN PAUSED SINCE MIM DID NOT CONFIRM READINESS AS SPECIFIED IN THE AGREEMENT. MY MISSION IS TO GET IT MOVING AGAIN. I assume this agreement has been executed? Is MIM as proposed purchaser, the only signatory with AKSA? EVERYTHING IS READY; HOWEVER, I BELIEVE THIS AGREEMENT MUST BE REWORKED SINCE THE PRESENT ONE IS NOT SOPHISTICATED AND IS VERY VAGUE - THE WAY IT IS NOW, THERE ARE TOO MANY THINGS THAT CAN GO WRONG. ALL PARTIES WANT THIS TO BE A SUCCESS. THE MAIN ISSUE FROM AKSA'S PERSPECTIVE IS THE NEED FOR A 20% LETTER OF CREDIT FROM AN ACREDITED BANK. THIS CAN BE DONE WITH A REVOLVING LETTER OF CREDIT WITH A ONE MONTH CYCLE.

I've never seen the Agreement, of course, I'm fairly new and all historical knowledge of this is gone. Do you have a copy (pro forma) of the signed document that can be e-mailed to me prior to any meeting that we may have? I HAVE IT AND WILL GIVE YOU A COPY. I WILL TRY TO GET MY TURKISH OFFICE TO SCAN IT TONIGHT. OTHERWISE, I CAN GIVE YOU A HARD COPY WHEN I SEE YOU.

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YES, WE CAN GO OVER SOME OF THEM WHEN I SEE YOU.

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K

The Need to Get All Parties Together on the Same Page

These issues must be negotiated with all parties present. As mentioned earlier, if this is not coordinated and if all parties have not committed to the deal / project, it may fail. The sides must be able to communicate properly or the deal's foundation will be flawed and the investor will face more risk. This is why things must be done properly; unfortunately, this takes time. The time consuming procedures are in the investor's interest.

mail2web - Check your email from the web at <http://mail2web.com/> .

mail2web - Check your email from the web at <http://mail2web.com/> .

(b)(6)

From: john@ultra-services.com
Sent: Tuesday, March 02, 2004 3:05 PM
To: (b)(6)
Subject: Meeting

(b)(6)

The sooner the better. Tomorrow morning at your convenience would be ideal. I simply need to know where and when. I know the Green Zone and can enter; but, I would need permission / escort to get into the Ministry buildings.

John Dawkins

(b)(6) WROTE:

When would you like to meet?

-----Original Message-----

From: john@ultra-services.com [mailto:john@ultra-services.com]
Sent: Tuesday, March 02, 2004 2:51 PM
To: (b)(6)
Subject: Power Generation Contracts with Aksa Rasa

(b)(6)

My name is John Dawkins. Your name was passed to me by Major Huang before he departed. I am representing Aksa and Rasa regarding the construction of five 60 Megawatt power stations.

I would like to have a chance to meet with you in the near future. I am in Baghdad.

My phone number is +964-790-137-2557 (locally dialed = 079-013-2557)

Regards,

John Dawkins
President
Ultra Services
www.ultra-services.com

mail2web - Check your email from the web at <http://mail2web.com/> .

mail2web - Check your email from the web at <http://mail2web.com/> .

(b)(6)

From: john@ultra-services.com
Sent: Thursday, March 04, 2004 7:43 PM
To: (b)(6)
Subject: AKSA RASA 60 MW Oil Power Plants (5)

(b)(6)

AKSA and RASA have different contracts to build five 60 megawatt power plants at cement factories (one is a cement and fertilizer factory near the Syrian border by Mosul - Baboosh I think off-hand - I do not have the contract in front of me).

AKSA will be completing all the contracts. These contracts are not for gas turbine power generators since only low grade diesel will be used as fuel. This is the reason no US companies bidded on the tenders. The diesel power plants require significant maintenance and support.

The contracts are signed with the Ministry of Minerals and Industry. The CPA was mistakenly left out of the contracting process. The result is a \$250m contract that is riddled with potential problems. The contract is vague and carries with it many risks that fall on the shoulders of my client. The fundamental problem is that there is no letter of credit from an accredited bank.

I was working with Major Huang on this; however, he left and gave me your name as a contact.

My Iraqi partners and I are already dealing with the following Ministries:
Minerals and Industry
Finance
Oil
Electricity

We want to bring in the CPA into this discussion. I expect to have a simple letter from the General Manager of AKSA tomorrow authorizing me to negotiate on their behalf. I must be in Tikrit tomorrow but would like to meet with you as soon as possible from Saturday onward.

Tomorrow I will send you some notes I organized based on my initial findings (they are not with me now since I am writing from a friend's computer).

Regards,

John Dawkins
President
+964-790-137-2557
+88-216-611-30554
www.ultra-services.com

mail2web - Check your email from the web at <http://mail2web.com/> .

CPA FUNDING REQUEST

PRB No: (PRB Staff to Assign)	Project Name: SOE Capital Expenditure
Date of Request: February 25, 2004	Date Required: March 1, 2004
(b)(6)	Signature:
CPA Office/Unit: Private Sector Development Directorate	(b)(6)
Amount of Request: \$27 million	DSN/Cell Phone: 239 8108
Project Location: Al Qaim	(b)(6)

1. Project Category (check all that apply):

Reconstruction <input checked="" type="checkbox"/>	Health <input type="checkbox"/>	Salaries <input type="checkbox"/>
Humanitarian <input type="checkbox"/>	Transportation <input type="checkbox"/>	Pensions <input type="checkbox"/>
Food Distribution <input type="checkbox"/>	Economic Programs <input type="checkbox"/>	Budget/Ops. Support <input type="checkbox"/>
Water/Sewer <input type="checkbox"/>	Education <input type="checkbox"/>	Other Public Services <input type="checkbox"/>
Electricity <input checked="" type="checkbox"/>	Ministry <input type="checkbox"/>	Social Programs <input type="checkbox"/>
Rule of Law/Govern. <input type="checkbox"/>	Police/ Security <input type="checkbox"/>	Cultural Programs <input type="checkbox"/>
Div. Commanders <input type="checkbox"/>	Brig. Commanders <input type="checkbox"/>	Regional Dir. <input type="checkbox"/>
Fund <input type="checkbox"/>	Fund <input type="checkbox"/>	Fund <input type="checkbox"/>
Construction Initiative <input type="checkbox"/>		

2. Proposed Funding Source:

(PRB Staff Only)

Vested Assets	<input type="checkbox"/>
Seized Assets	<input type="checkbox"/>
Appropriated Funds	<input type="checkbox"/>
Iraqi Development Fund	<input checked="" type="checkbox"/>

3. Funding Data:

Bank Account Details: _____ or
Name/Title of Iraqi Receiving Disbursement: NA
CPA Rep/Unit Responsible for Oversight: COL Bien
Engineering Oversight Assigned to: US Army Corps of Engineers
Name of Certifying Official: _____

4. Clearances: Please indicate you have obtained appropriate clearances, as applicable.

(Note: If that coordination cannot be done at the regional level, it will be done by PRC.)

Regional Coordinator: Yes ☒ No ☐ Name: (b)(6)
Ministry Senior Advisor: Yes ☒ No ☐ Name: (b)(6)
Office Director/Unit Commander: Yes ☒ No ☐ Name: Tom Foley
Reconstruction/USAID: Yes ☐ No ☐ Name: NA
International Coordination Council: Yes ☐ No ☐ Name: NA
Others: Jeff Norman; Advisor to the Ministry of Electricity

Program Staff Use Only

Date Request Received: _____	Form Complete: Yes <input type="checkbox"/> No <input type="checkbox"/>
Disposition: _____	
Date Request Submitted to Program Review Committee: _____	
Disposition: _____	
Date Request Submitted to Program Review Board: _____	

(b)(6)

From: john@ultra-services.com
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(AFX-Focus) 2004-02-01 19:23 GMT:

Iraq hires UK-registered, Turkish private power firms for cement sector

Article layout raw

BAGHDAD (AFX) - Iraq hired two foreign companies to provide electricity to its power-starved state-owned cement factories, which are essential to the reconstruction of the country, an interim industry ministry spokesman said.

The ministry signed a contract with the Iraqi-owned, British-registered Hancock Overseas Corp (HOC) to supply 35 megawatts of electricity to the Muthana Cement company, in southern Iraq, the spokesman said.

It also signed contracts with Turkey's Vapa company to install power generation systems to supply 34 megawatts of electricity to the Kufa Cement Factory, in central Iraq, the spokesman said.

The power generation systems are to be set up in June and the cement companies will buy electricity at an average price of 3.15 US cents per kilowatt/hour, he said.

The contracts are expected to last until the cement plants can be supplied by Iraq's national electricity grid, which might take five years, he said.

newsdesk@afxnews.com

mch/jm/fm/np/hjp

PROPOSED SBLC LANGUAGE

CREDIT

IRREVOCABLE CONFIRMED LETTER OF

NUMBER:
DATE:

BENEFICIARY:
(BENEFICIARY NAME AND ADDRESS)

WE HEREBY ESTABLISH THIS IRREVOCABLE STANDBY LETTER OF CREDIT
NUMBER _____ IN YOUR FAVOR FOR THE ACCOUNT OF State Owned Enterprise
("PURCHASER") FOR AN AGGREGATE AMOUNT NOT TO EXCEED USD
_____, EFFECTIVE IMMEDIATELY AND EXPIRING AT OUR COUNTERS WITH
OUR CLOSE OF BUSINESS ON Date one year from issuance.

UNDER THE CONTRACT FOR HIRING OF POWER PLANTS AND THEIR
OPERATION THROUGH PURCHASE OF SERVICE ("CONTRACT"), YOU ARE REQUIRED TO
DELIVER ELECTRICITY TO THE GRID (AS DEFINED BELOW) OR TO PURCHASER AND
YOU ARE ENTITLED TO PAYMENT IN CASH OR IN-KIND WITHIN 15 DAYS FOLLOWING
THE END OF THE MONTH IN WHICH THE ELECTRICITY WAS DELIVERED TO PURCHASER
OR DELIVERED TO THE GRID. IF PURCHASER FAILS TO PAY FOR SUCH ELECTRICITY
WITHIN THIS TIME PERIOD, THE PURCHASER SHALL HAVE AN ADDITIONAL 30 DAY
PERIOD IN WHICH TO EFFECT PAYMENT. IF THE PURCHASER IS UNABLE TO EFFECT
PAYMENT BY THE END OF THIS 30 DAY PERIOD, YOU SHALL BE ENTITLED TO PAYMENT
IN ACCORDANCE WITH THE TERMS OF THIS STANDBY LETTER OF CREDIT. HOWEVER,
UNDER THE CONTRACT, NEITHER YOU NOR THE PURCHASER SHALL BE CONSIDERED
IN DEFAULT OF YOUR RESPECTIVE OBLIGATIONS FOR OMISSIONS, DELAYS, OR
DEFAULTS IN PERFORMANCE CAUSED BY CIRCUMSTANCES BEYOND YOUR
RESPECTIVE CONTROL AND THAT COULD NOT HAVE BEEN REASONABLY FORSEEN
AND GUARDED AGAINST BY AN EXPERIENCED CONTRACTOR IN THE EXERCISE OF DUE
DILIGENCE, PROVIDED NOTICE OF FORCE MAJEURE IS GIVEN WITHIN 14 DAYS OF THE
OCCURRENCE OF THE EVENT.

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THE GRID IS IRAQ'S NATIONAL ELECTRIC POWER GENERATION AND
TRANSMISSION (INTERCONNECTED SYSTEM) SYSTEM.

PROVIDED THE FOREGOING REQUIREMENTS HAVE BEEN COMPLIED WITH,
FUNDS UNDER THIS LETTER OF CREDIT ARE AVAILABLE TO YOU UPON PRESENTATION
OF YOUR DRAFT(S) AT SIGHT, DRAWN ON Issuing Bank, ACCOMPANIED
BY YOUR WRITTEN STATEMENT SIGNED BY ONE OF YOUR OFFICIALS UNDER PENALTY
OF PERJURY AND READING:

"THE UNDERSIGNED CERTIFIES THAT HE/SHE IS A DULY AUTHORIZED OFFICER
OF CONTRACTOR, AND THAT [State Owned Enterprise] ("PURCHASER") HAS
FAILED, AFTER BEING PROVIDED WRITTEN NOTICE (A COPY OF WHICH IS
ATTACHED) OF ITS FAILURE TO PAY PAST DUE AMOUNTS AND A PERIOD OF
THIRTY (30) DAYS IN WHICH TO EFFECT PERFORMANCE, TO PERFORM ITS
OBLIGATIONS TO CONTRACTOR UNDER THE CONTRACT FOR HIRING OF
POWER PLANTS AND THEIR OPERATION THROUGH PURCHASE OF SERVICE
("CONTRACT"), TO PAY FOR ELECTRICITY DELIVERED TO PURCHASER OR

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DELIVERED TO THE GRID IN ACCORDANCE WITH THE CONTRACT, AND THAT PAYMENT OF PAST DUE AMOUNTS HAS NOT BEEN RECEIVED.

THIS LETTER OF CREDIT EXPIRES AT OUR COUNTERS LOCATED AT Issuing Bank's Address.

IT IS A CONDITION OF THIS IRREVOCABLE LETTER OF CREDIT THAT IT SHALL BE AUTOMATICALLY EXTENDED EACH TIME WITH FULL AMOUNT FOR AN ADDITIONAL PERIOD OF ONE YEAR FROM THE PRESENT OR EACH FUTURE EXPIRATION DATE, UNLESS AT LEAST 30 DAYS PRIOR TO SUCH DATE WE SEND YOU NOTICE IN WRITING BY REGISTERED MAIL OR HAND DELIVERY AT THE ABOVE ADDRESS, THAT WE ELECT NOT TO RENEW THIS LETTER OF CREDIT FOR SUCH ADDITIONAL PERIOD. HOWEVER, IN NO EVENT SHALL THIS LETTER OF CREDIT BE EXTENDED BEYOND THE FINAL EXPIRY DATE OF five years 64.5 MONTHS from issuance. ANY SUCH NOTICE SHALL BE EFFECTIVE WHEN SENT BY US AND UPON SUCH NOTICE TO YOU, YOU MAY DRAW DRAFT(S) ON US AT SIGHT FOR AN AMOUNT NOT TO EXCEED THE BALANCE REMAINING IN THIS LETTER OF CREDIT WITHIN THE THEN APPLICABLE EXPIRATION DATE, ACCOMPANIED BY YOUR DATED STATEMENT SIGNED BY ONE OF YOUR OFFICIALS READING: "THE AMOUNT OF THIS DRAWING USD _____ UNDER Issuing Bank LETTER OF CREDIT NUMBER _____ REPRESENTS FUNDS DUE US AS WE HAVE RECEIVED NOTICE FROM Issuing Bank OF THEIR DECISION NOT TO EXTEND LETTER OF CREDIT NUMBER _____ FOR AN ADDITIONAL YEAR."

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THIS LETTER OF CREDIT SETS FORTH IN FULL THE TERMS OF OUR UNDERTAKING AND SUCH UNDERTAKING SHALL NOT IN ANY WAY BE MODIFIED, AMENDED OR AMPLIFIED, BY REFERENCE TO ANY DOCUMENT, INSTRUMENT OR AGREEMENT REFERRED TO HEREIN OR IN WHICH THIS LETTER OF CREDIT RELATES, AND ANY SUCH REFERENCE SHALL NOT BE DEEMED TO INCORPORATE HEREIN BY REFERENCE ANY DOCUMENT, INSTRUMENT OR AGREEMENT.

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ALL DOCUMENTS PRESENTED TO US IN CONNECTION WITH ANY DEMAND FOR PAYMENT HEREUNDER, AS WELL AS ALL OTHER COMMUNICATIONS TO US WITH RESPECT TO THIS LETTER OF CREDIT SHALL BE IN WRITING AND ADDRESSED AND PRESENTED TO US AT Issuing Bank's counters, AND SHALL MAKE SPECIFIC REFERENCE TO THIS LETTER OF CREDIT NUMBER.

WE HEREBY UNDERTAKE TO HONOR ADD DRAFTS DRAWN AND PRESENTED TO US IN COMPLIANCE WITH THE TERMS OF THIS LETTER OF CREDIT. THIS LETTER OF CREDIT SHALL BE SUBJECT TO THE INTERNATIONAL STANDBY PRACTICES ("ISP98"), INTERNATIONAL CHAMBER OF COMMERCE PUBLICATION NO. 590. ISSUE THIS DOCUMENTARY CREDIT IN YOUR FAVOR.

CPA FUNDING REQUEST

PRB No: (PRB Staff to Assign)	Project Name: IPP
Date of Request: 3 Feb 04	Date Required: 17 Feb 04
Name of Requester: LTC Brad Jackson	Signature: 
CPA Office/Unit: MIM	(b)(6)
Amount of Request: \$27,000,000.00	
Project Location: Nation wide (Region)	

1. Project Category (check all that apply):

Reconstruction <input type="checkbox"/>	Health <input type="checkbox"/>	Salaries <input type="checkbox"/>
Humanitarian <input type="checkbox"/>	Transportation <input type="checkbox"/>	Pensions <input type="checkbox"/>
Food Distribution <input type="checkbox"/>	Economic Programs <input type="checkbox"/>	Budget/Ops. Support <input type="checkbox"/>
Water/Sewer <input type="checkbox"/>	Education <input type="checkbox"/>	Other Public Services <input type="checkbox"/>
Electricity <input checked="" type="checkbox"/>	Ministry <input checked="" type="checkbox"/>	Social Programs <input type="checkbox"/>
Rule of Law/Govern. <input type="checkbox"/>	Police/ Security <input type="checkbox"/>	Cultural Programs <input type="checkbox"/>
Div. Commanders <input type="checkbox"/>	Brig. Commanders <input type="checkbox"/>	Regional Dir. <input type="checkbox"/>
Fund <input type="checkbox"/>	Fund <input type="checkbox"/>	Fund <input type="checkbox"/>
Construction Initiative <input type="checkbox"/>		

2. Proposed Funding Source: (PRB Staff Only)

Vested Assets <input type="checkbox"/>
Seized Assets <input type="checkbox"/>
Appropriated Funds <input type="checkbox"/>
Iraqi Development Fund <input type="checkbox"/>

3. Funding Data:

Bank Account Details: _____ or _____
 Name/Title of Iraqi Receiving Disbursement: _____
 CPA Rep/Unit Responsible for Oversight: _____
 Engineering Oversight Assigned to: _____
 Name of Certifying Official: _____

4. Clearances: Please indicate you have obtained appropriate clearances, as applicable. (Note: If that coordination cannot be done at the regional level, it will be done by PRC.)

Regional Coordinator: Yes ☐ No ☒ Name: _____
 Ministry Senior Advisor: Yes ☒ No ☐ Name: LTC Brad Jackson
 Office Director/Unit Commander: Yes ☐ No ☐ Name: _____
 Reconstruction/USAID: Yes ☐ No ☒ Name: _____
 International Coordination Council: Yes ☐ No ☒ Name: _____
 Others: _____

Program Staff Use Only

Date Request Received:	Form Complete: Yes <input type="checkbox"/> No <input type="checkbox"/>
Disposition:	
Date Request Submitted to Program Review Committee:	
Disposition:	
Date Request Submitted to Program Review Board:	
Disposition:	
Date Request Returned to Requester/Submitted to Comptroller:	

CPA INSTRUCTIONS FOR SUBMITTING FUNDING REQUEST

The Program Review Board has established a folder in Outlook's Public Folders, where all documents are available for downloading. The folder currently holds an overview of the Allocation Process, Funding Request Form and Instructions and will soon contain a tracking matrix of funding requests so that you can view the status.

1. All funding requests must be submitted on a CPA Funding Request Form (PRB 01).
2. Submit an electronic version of the completed form via email to the "Program Review Board" address on the Outlook system. The electronic copy will initiate the process.
3. Deliver a signed hard copy of the completed form, along with any attachments, to the Program Review Board's mailbox located by the Executive Secretariat.
4. Please attach supporting documentation to the original, hard copy. For large contracts, please submit cost proposals and planning documents.

Program Description

The better the program description, the more quickly it will proceed through the funding process; the greater the funding request, the stronger justification required. Requests may be returned due to insufficient information, justification or lack of coordination. The request must address all aspects of the project (goods, services, etc). Your justification need not be long, however, it must address the following issues:

1. Purpose/Objective: Fully describe the problem/issues you are addressing and the objective of the program. If there is assessment data, please incorporate and attach documentation. If this request is part of a larger project or funding plan or if there has been funding spent previously on this project, please indicate.
2. Justification: Justify why it is important for the CPA to address the problem now and the potential impact of not supporting the project. Ministry funding requirements generally should be addressed in the national budget which is being developed and your justification should address why the project should be funded prior to the budget.
3. Coordination: Demonstrate that you have fully coordinated the project with all of the necessary players – i.e. if this is a construction project, mention that you have coordinated with USAID or US Corps of Engineers. Describe the involvement of your Iraqi counterpart. Identify other implementing partners, such as UN agencies, NGOs, and if you have sought other funding contributors, identify the status of the contribution.
4. Goods and Commodities: For purchase of goods, identify the goods, price including transportation costs, quantity, where they will be purchased if known (i.e. local market, import), and how they will be brought into the country and attach cost estimates, if available.
5. Project Implementation: Describe the mechanism for implementation – i.e., contract, grant, or via disbursement of funds to Iraqi ministry, etc. Describe the mechanism for monitoring project implementation. Describe the project timeline.

If you have questions regarding this process, please contact the Program Coordination Office

(b)(6)



COALITION PROVISIONAL AUTHORITY
BAGHDAD

ACTION MEMO

January 12, 2004

FOR: THE ADMINISTRATOR
FROM: (b)(6) Senior Advisor, Ministry of Industry and Minerals (MIM)
SUBJECT: Status of the MIM Independent Power Production (IPP)

The Trade Bank of Iraq's Director, Andy Tulloch, is working on finalizing a proposal to obtain the funding to back the LCs (bank guarantees) required for the project. The proposal involves utilizing DFI funds estimated at approximately US \$86 million to be disbursed to the JPMorgan consortium who would then underwrite the LCs to guarantee the billings by the IPP. The Trade Bank of Iraq would then reduce the L/C amount by the payments made to the IPPs monthly.

Mr. Tulloch adds that "As such, the money really never leaves our control. JPM pays interest to the DFI. The chances of loss are very small. The MIM will insure that the plants prioritize the payments monthly to the IPPs and I will insure that the TBI adjusts the L/Cs simultaneously." The funds are left in trust since the firms selected have cash flow to pay monthly. The MIM troops met with TBI this a.m. and we may be able to do 30 day L/Cs renewable as long as payments are made. That will shrink the amount deposited to approximately US\$ 7million.

I understand that the PRB hesitates to approve of DFI funds to be used in such a proposal. We need your support to encourage the PRB to find a way to support Mr. Tulloch's proposal.

Background:

The Independent Power Production scheme will provide nine (9) MIM SOE sites in the cement, fertilizer, and phosphate sector with 330 MW of steady electricity. Four (4) companies (out of 43 bidders) were short-listed in a very rigorous and competitive process to supply Al-Qaem Phosphate, Kubaisa, Sinjar, Badoosh, Muthana, Karbala, Kufa, Rubber & Textiles, Diwania, Southern Fertilizers - Khor Alzubair, with the emergency electricity to restart/expand operations.

RECOMMENDATION: Strongly urge support to obtain PRB support for the proposal to establish the LCs needed for the IPP.

12/12/04
Approve:

Disapprove:

Approve with modification:

ATTACHMENTS: NONE

COORDINATION:

(b)(6)

Disposition (including expenditure authorized):

Description of Program or Goods To Be Purchased – Please See Above Instructions

The \$27 Million will be used as collateral for a Stand by Letter of Credit to provide a performance guarantee for the Ministry of Industry with its Independent Power Producers

The MIM has negotiated contracts with IPP to provide power platforms to the more lucrative companies within the MIM portfolio (cement, phosphate, petrochemical) The IPP will deliver 330 MW of electricity to the company (at 3.18 cents per kilowat hour) (compared to the bilateral negotiated prices of 8 cents). This amount equates to 10% of the current grid. The IPP will own and operate the platforms.

The grid has failed to provide the electricity too get these companies – the commanding heights – the power they need to get up and running. Upon contract signature the vendors will provide delivery of electricity within 4.5 months to the nine site locations. Five of the nine companies have already signed the contracts.

Details are as follows:

<u>Company</u>	<u>Activity/Location</u>	<u>MW</u>
State Phosphate/	Al Qaim	60
Iraqi Cement	Al Qaim Cement	
Iraqi Cement	Kubaisa Cement	43
Iraqi Cement	Kirkuck Cement	55
Northern Cement	Badoshi Cement	35
Northern Cement	Sinjar Cement	34
Southern Cement	Karbarla Cement	35
Southern Cement	Muthana Cement	35
Southern Cement	Kufa Cement	25
Southern State Company for Fertilizers		11

residual fuel oil

Nat Gas

\$12mm

MOE-
Fert. plant

This does
need
to be coordinated
for
3,500 MW

**CONTRACT
FOR HIRING OF POWER PLANTS
AND THEIR OPERATION
THROUGH PURCHASE OF SERVICE**

1. The contract is for the purchase of power from the power plant of the Government of India, which is to be operated by the Government of India.
2. The contract is for the purchase of power from the power plant of the Government of India, which is to be operated by the Government of India.
3. The contract is for the purchase of power from the power plant of the Government of India, which is to be operated by the Government of India.

CONTRACT FOR HIRING OF POWER PLANTS AND THEIR OPERATION THROUGH PURCHASE OF SERVICE

ARTICLE 1- PURPOSE

The object of this contract is to hire a power plant with total capacity of 60 MW, in Al- Qaem (Anbar) region, according to the terms and conditions hereof, operate and maintain it to supply electric power.

ARTICLE 2- SCOPE

This Contract includes the manners and basis of location of the power plant at Al-Qaem region, by connecting it to the substation and operation, according to the provisions of this contract, by the Contractor.

ARTICLE 3- DEFINITIONS

3.1. MIM

It means Ministry of Industry and Mineral.

3.2. MOE

It means Ministry of Electricity.

3.3. PURCHASER

The State Company of Phosphate fertilizer and Iraqi Cement Co. Al Qaem Cement Plant.

3.4. CONTRACTOR

It means the firm AKSA ENERJI ÜRETİM A.Ş. who hires the power plant to Purchaser and accepts and undertakes the services specified herein.

3.5. PARTIES

One of the parties of this Agreement is The State Company of Phosphate fertilizer and Iraqi Cement Co. (Al Qaem Cement Plant) which will, hereinafter, be referred to as Purchaser and the other party is AKSA ENERJI ÜRETİM A.Ş. which shall be referred to as Contractor.

3.6. AUTHORISED REPRESENTATIVE

The Contractor is the person (or are the people) who is (or are) authorized, within 15 (fifteen) days at the latest after this Agreement takes effect to carry out the works within the scope of this Agreement and be in charge thereof towards Purchaser (the Contractor shall notify Purchaser of the name and title as well as the address of the representative he designated this purpose).

3.8. DEPLOYMENT

Construction of power plant at Al-Qaem region means, construction of the plant and connecting it to the substation, and erection of the equipment' s in such a way that they will be ready for operation.

3.9. GRID (SYSTEM)

It is the national electric power generation and transmission (interconnected system) system.

3.10. PROJECT APPROVAL

Contractor shall present within 7 days from the signature of the contract the following documents for approval. MIM, MOE & purchaser shall give their approval or comments & return to contractor within 15 days from day of receipt

- Single line diagrams of the system and method of connection to substation.

- General location layout and the deployment area of the power plant.
- Technical documentation related to contractors equipment for the power generation plant and technical parameters of power generation plant in case of delay in approval by MIM, MOE & purchaser the time schedule shall be extended accordingly in case of delay by contractor in presenting the documents or completing the information the additional time shall be subject to penalties.

3.11. COMMENCEMENT DATE OF WORK

The Commencement date of work is 15 days after the signature of the contract with the following being completed:

- The handing over of deployment area for the power plant by purchaser.
- The exchange & handing over of mutual performance securities which shall be presented by both sides.

3.12. COMMENCEMENT DATE OF HIRE

It is the date on which, the acceptance protocol is, upon successful completion of the acceptance tests at the facilities, signed by the Acceptance Committee formed in compliance with the Contract, and the facility is put into service and power is supplied accordingly.

3.13. ACTUAL EFFECTIVE SERVICE PERIOD

It is the time, which commence after the Commencement Date of Hire, that is 60 (sixty) months. *5 years*

3.14. CAPACITY OF THE FACILITY

It is capacity level of the Facility which is determined with respect to the maximum constantly produceable capacity level at the Facility, on the basis of minimum heat value of the fuel without performing any maintenance work other than that previously defined by normal maintenance procedures and also without the necessity of special measures and special operator attention.

3.15. MEASUREMENT GROUPS

The measurement system at the Facility for the measurement of the net kWh delivered to the system, consisting of meters, current and voltage transformers feeding thereto and the secondary circuits.

3.16. MEASUREMENT POINT

The location of connections of current and voltage transformers, feeding the meters of measurement groups on which kWhs delivered to the systems are measured.

3.17. kWhs DELIVERED TO THE SYSTEM

The amount of active electric energy generated at the Facility.

3.18. REGIONAL LOAD DISPATCH CENTER

It is Load Dispatch Center in the region where the facility is located and to which the Contractor will contact for the execution of service and a telecommunication system to be installed between power plant and substation by the contractor.

3.19. MOE AUTHORISED PERSONEL

The officials of the related MOE in the location where the Facility deployed therein, is situated.

3.20. UNIT

Each generation unit, which comprises the Facility and connected via contractors' busbar to the system as per MOE's approval.

3.21. MONTHLY PERFORMANCE VALUES

It means the monthly net generation amount, which is found by capacity of facility (60 MW) multiplied by monthly operating period guaranteed by the Contractor (minimum base load, i.e.: 650 hr x 60 MW = 39,000,000 kWhs/month) for each month during service period, base load deviation during the remaining 70 hours of the month to be given & should not effect plant operation.

3.22. FACILITY

It means the power plant consisting of power generation units and automatic control system of power plant, switchgear between the power plant and substation, fuel treatment units and its associated equipment which will be deployed by the Contractor at Al- Qaem Region.

3.23. ACCEPTANCE COMMITTEE

The Acceptance Committee will be formed by Contractor, Purchaser, MOE and MiM for the acceptance of the facility.

Syr = 74.4mm

3.24. HIRING CHARGE

It means the monthly net payments (in USA Cent/kWh) to be made by Purchaser per kWh net active energy which is generated and measured by the metering system in such plant multiplied by the hiring price of 3.18 USA cent / kWh in return for the services of contractor placing the power plant with a capacity of 60 MW in Al-Qaem region, in such a manner as to satisfy the performance values, keeping the plant in good operating condition for the duration of 5 (five) years of operation according to the contract terms.

And these payments should be transferable to the other countries without any deduction of taxes (except income tax) and charges ...etc. additional to the normal bank transfer fees.

ARTICLE 4- PRINCIPLES

Availability all through the 24 hours of a day/month/year and service continuity are the essential requirements for the services to be provided in the Facility defined in this Contract. The Contractor shall make maximum efforts and sacrifice in respect of the services he will render in order to achieve highest level of benefits and efficiency.

ARTICLE 5- CONTRACT LANGUAGE

This Contract and its annexes and all forms shall be prepared in English and written Communications and discussions to be held between the parties shall be made in English and this English text shall be accepted as the binding document.

ARTICLE 6- TERM OF CONTRACT

The term of the Contract is 64.5 (sixty four point five) months from the Commencement Date of Works. Of this duration, 4.5 (four and a half) months are for the deployment of the plant, connection to the factory substation by the Contractor according to the provisions of this contract, and hence the actual effective service period is 60 (sixty) months. If the Contractor complete the deployment period before 4.5 months this period will be added to the 60 months actual effective service period. During this period, the Contractor shall take all possible measures to execute the work as contemplated.

The term of Contract can be extended, subject to mutual agreement with the mutually agreed terms, if the term of the contract will not be extended Contractor has right to disassemble all engines and related equipments and send out of the country.

ARTICLE 7- PERFORMANCE SECURITY

The Contractor shall give to Purchaser 3 (three) % of the minimum annual base load price in terms of USA \$, which is quoted the work within the scope hereof, as Performance Security with 12 (twelve) months validity. The Bid Security given by the Contractor shall be returned with the presentation of this Performance security of Contractor. This performance security of Contractor shall be returned to the contractor at the end of the validity date.

→ Purchaser shall give to Contractor a Performance security with the amount of[?] USA Dollars, (which is the multiplication of base load kWh with plant power and price for one year) with one year validity automatically yearly revolving for 5 years with the same full amount in the form in Annex 1. #149m

→ This performance security to be given from the central bank of Iraq with the endorsement of Ministry of Finance.

This Performance Security shall be released after successful service period and removal of the facility.

ARTICLE 8- INSURANCE AND SECURITY

Issuance of insurance against all sorts of risks related with the subject work and facility of the Contract, and all sorts of procedures and expenses related with the said insurance shall be under the liability of the Contractor.

During the period of transportation, installation and operation it is the liability of Contractor however purchaser shall render assistance with their authorities MIM, MOE to help providing the necessary protections.

All kinds of help and support will be given to the Contractor about issuance of insurance against transportation, fire, breakdown and sabotage and providing security.

ARTICLE 9- TAXES, PERMISSIONS

The exemption from all taxes, duties, custom dutie, charges, fund, VAT, and contract contributions, and all other similar expenses, which may occur from the signing of this contract, shall be covered by Law 20 of 1998. NO

The exemption from the income taxes up to 30% only as per law 20 of 1998 article 4. THIS SPELLED

All necessary permission for import and export of equipments, parts and consumables, temporary importation of the equipment and the construction equipment, and all work permissions of the construction and operation personal shall be provided by MIM.

The Contractor shall be free to transfer their income and all profit from this contract to outside of the country.

ARTICLE 10- COMMENCEMENT DATE OF HIRE AND DELAY OF WORK

The signing date of the acceptance protocol by the Acceptance Committee, which will take place within 4.5 (four and a half) months' at the latest from the coming into force of the contract, after having, pursuant to the Contract conditions herein, the power plant deployed by the Contractor by taking necessary authorizations, approvals and permissions by MIM, physical connections made to the power system after the tests being successfully completed, shall be the Commencement date of hire and this date shall be taken as a basis for payments.

During the deployment time, Contractor will construct the plant and connect to grid and will make the plant ready for testing and operation. Purchaser, MIM and MOE will provide the necessary permissions, lodging for operating staff only and provide the fuel tanks and fuel with accepted quantity and quality as per attached specifications.

- 10.1-** From the Commencement Date of Work specified in the Contract, delays due to the reasons that originate from the Force Majeure events the necessary time extension will be given as per clause (24).
- 10.2-** Due to the reasons originate from the Contractor, the Contractor notifies MIM in writing the reasons of delay if any delay occurs. In case of occurrence of a delay, which originates from the Contractor, the delay penalty of price of energy multiply by minimum base load in kWh bases shall be applied to the Contractor. Applied penalty cannot be more than 7% of the yearly contract price. \$/mm
- 10.3-** If facility is ready for acceptance test the contractor shall inform purchaser of his readiness to conduct tests & after approval by purchaser a three week notice to be given in case MOE, MIM and/or purchaser is not ready to get energy, purchaser shall pay price of energy multiplied by minimum base load in kWh bases, for each hours delayed to the Contractor..

ARTICLE 11- WORK SCHEDULE

The Contractor shall carry out the work within the scope of this Contract in accordance with the conditions hereof and on the dates specified in the work schedule attached. In case of emergence of any one of the conditions set forth in the article of force major, which adversely affects achievement of the dates in the work schedule, the Contractor shall notify purchaser of the situation.

11.1. SYSTEM CONNECTION

The line required for the connection shall be designed by the Contractor. All related pictures, projects, documents and information for the system in operation which will enable the Contractor to make connection to the system, will be provided by MIM, MOE and purchaser. If the system designed with the information obtained from them doesn't match in connection, they are obliged to make essential alterations in design. In order to ensure the safe connection of the Facility to the system, the connection of the line, to be built by the Contractor, shall be carried out by purchaser, after the requisite checks are performed thereby. The single line diagram prepared by contractor shall be approved by purchasers MOE before contract signature.

ARTICLE 12- RECORDING OF INSTRUCTIONS AND SUBMISSION OF METERING INFORMATION

The Contractor shall comply with the instructions to be given MOE and purchaser and inform the related such centre, by a letter handed over to purchaser or other similar communication means, of the following data to be utilised by MOE for statistical or system control purposes. These are:

- Values recorded by energy meters,
- Active power and reactive power values received from and supplied to the grid and voltage values (P, Q and V)
- Other information on electric power system to be provided whenever requested by the MOE's authorised personnel and at intervals mutually agreed upon.

ARTICLE 13- ANNUAL, MONTHLY PROGRAMS

13.1 ANNUAL PROGRAM

The Contractor guarantees the provision of annual program values in accordance with the following conditions:

- Estimated and net annual, monthly, weekly electrical energy generation amounts for each unit
- Estimated forced outage period
- Estimated commencing and terminating dates of programmed outages such as maintenance and inspection, revision
- A loading programme to be submitted

13.2 MONTHLY PROGRAM

The Contractor may revise the monthly generation program, contemplated in the annual energy generation program prepared within the contract term according to Article 13.1. every month for the month that follows it. Monthly revised generation program shall be informed to MOE in writing by the Contractor by the 25th (twenty fifth) of the month that precedes the month it is arranged for. Any revision in monthly program shall be approved by MOE.

ARTICLE 14- OPERATING PRINCIPLES

The Contractor is obliged to work in harmony with the system and comply with all the conditions set forth in this Contract. The total of the electrical energy generated in the Facility and the utilisation right thereof are at MOE's disposal. The Contractor shall provide services at the Facility, in such a manner that it shall generate electrical energy for 24 hours per day in line with the operation-maintenance instructions and shall insure direct communication with substation.

The operation, maintenance and repair service to be provided at the power plant shall be carried out by the personnel whose qualifications and numbers are in consistent with those prescribed therein.

The Contractor shall take all the measures concerning the execution of operation and maintenance services in an effort to maintain the electrical energy generation at its highest level. Acting as an efficient and economic operator and making full use of the available capacity are the main aspects for which the Contractor shall be responsible.

The purchaser and MOE will take all the measures to get and distribute the energy produced by the facility.

MOE is obligated

14.1. Power Factor

* The units shall operate under excited or over excited within its $\cos\phi$ rating and limits of load capability curve, whenever needed by the system. As per MOE's specifications.

14.2. Synchronisation

All kinds of arrangements for entering into parallel with grid shall be installed on the facility side while the arrangements of voltage and frequency conditions will be provided by MOE, also the facility shall be design in such a manner that when the electricity is out of in the network, facility shall take over units and supply electricity to substation with the load steps of the units. The load management and the protections are MOE's responsibility. [The grid synchronisation with necessary protections over facility is MOE's responsibility] MOE.

14.3. Voltage and Frequency Ranges

Facility voltage specification will be the bus bar voltage $\pm 5\%$, and frequency specification will be 50 Hz $\pm 2\%$. operating parameters subject to MOE's approval.

$\pm 1\%$, $\pm 2\%$, $\pm 1\%$

ARTICLE 15- CHANGES IN OPERATING CONDITIONS

A system failure in the grid, which may affect the operation of the Facility, and estimated duration thereof, shall be promptly notified by MOE to the Contractor by direct telecommunications between plant & sub-station.

Purchaser is responsible for supplying fuel with the attached fuel specification in Annex 2. Fuel specification should be certified for each shipment. If the fuel quality is not complying required fuel specifications and in case of bad quality interruption in supplying fuel, the losses shall be borne by purchaser. It shall be replaced with an acceptable fuel type.

Fuel Standard up front

Force Major Define

2. \Rightarrow The production losses that are caused due to breakdown and repairing of energy transfer system except planned maintenance shall be paid by purchaser for the period of breakdown except for planned maintenance.

MOE on the hook

The Contractor shall notify purchaser of any failure or any unscheduled inspection and maintenance or other events affecting the generation capacity (type, natural probable causes, estimated duration and remaining available capacity of the unit and the works done etc. shall be covered by the information to be given and these shall be confirmed in writing subsequently.)

The loss of electric power shall be paid by contractor for the duration of breakdown at base load calculation or any deviation therefore.

NO penalty clause

ARTICLE 16- DEVICES RELATED TO THE FACILITY AND GRID

The Contractor shall supply and assemble at its own cost, the system within the premises of the Facility and up to the point of connection, all communication, protection, control measurement and similar devices and systems. The Contractor shall receive the relevant technical information from MOE and purchaser.

MOE and purchaser will provide the data requested by the Contractor regarding the earthing protection, over current protection, load priority sequence and design fault level of the system. MOE will make necessary arrangements for the connection of the facility. [the approval of the single line diagram shall fix all parameters by MOE].

ARTICLE 17 -DEFINITION OF ELECTRICAL ENERGY TO BE BASED ON FOR DETERMINING SERVICE CHARGE

17.1. In calculating the price of the service provided by the Contractor within the scope hereof, only the amount of net active energy generated shall be taken into account.

17.2. The electrical energy which forms the basis for the hiring charge is the net active energy delivered into the power system from the line or lines at the outgoing terminal of the Facility.

what's this

In cases when the plant cannot make energy generation for any reason, the Facility shall be designed that the internal consumption shall be drawn from the system.

ARTICLE 18 -ELECTRICAL ENERGY DELIVERY CONCERNING POWER PLANT OPERATION AND MAINTENANCE HIRING CHARGE

The measurement point of the electrical energy to be delivered by the Contractor to purchaser and/or MOE shall be, in principle, at the HV outgoing side of the power plant's step-up transformer. Locations, types of connections and, in case of necessity, directions of the measurement groups, shall be determined by the Contractor's and MOE and purchaser's authorised staff together.

ARTICLE 19- ACCEPTANCE PROTOCOL AND PUTTING THE FACILITY INTO SERVICE

Upon the successful completion of the tests that are specified by purchaser and the Contractor, a test report shall be drawn up by the test committee; thereby the acceptance shall be done by the Acceptance Committee.

The preparation for the grid and consumers, for the tests that must be done before the Acceptance Tests, belongs to MIM, MOE and purchaser. The time period of pre-test that cannot be done due to unprepared grid and consumers, will be added to the deployment period of the plant.

An acceptance protocol shall be drawn up by the Acceptance Committee and the facility shall enter into service on the date of signing of the acceptance protocol and the Commencement Date of Hire shall have started.

Force Majeure

ARTICLE - 20 TEST FOR THE HIRED FACILITY TO DETERMINE ITS READINESS FOR OPERATIONS

After the deployment of the facility, test shall be performed by a test committee consisting of MIM's, MOE's, purchaser's and Contractor's staff in order to ensure its commissioning on the date set forth in the Work Schedule and mutually agreed upon. This test is Capacity Utilization Test.

A achievement of electrical parameters within standards specified by MOE.

During this test, the facility shall be operated 24 (twenty four) hours without interruption. During test in the event that the facility runs out of service 2 (two) times due to causes attributable to the Contractor, or duration of such outage exceeds 6(six) hours, the Capacity Utilization Test shall be repeated from the beginning.

Decrease of facility's capacity due to causes attributable to the Contractor, below 70% of its normal level for 4 hours in the ambient conditions prevailing at the moment, shall be deemed as the Facility's outage. Contractor will bear the deviation from base load.

ARTICLE - 21 HIRE CHARGE

As the price of services it provides within the scope of this contract, remuneration shall be made to the contractor after commissioning of the Facility, being as the Hire Charge, in return for the deployment of the facility, connecting thereof to the power system, and keeping it in good operating condition.

Hire charge shall be of such amount that it shall include all costs for the deployment, connection to the nearest transmission line and keeping in operation of a power plant with a capacity of 60 MW and annual active net energy generation capability, in the year for which the monthly break-down is given, of kWh, and shall be expressed in terms of USA Cent/kWh. This charge shall be fixed during the contract period.

Necessary fuel for the operation of this facility such as Fuel - Oil, diesel- Oil, with specification attached of this contract shall be given by Contractor, for operation of facility, shall be delivered by the purchaser as a free of charge, in the storage tank that shall be constructed by purchaser. Quantities & specification as per annex.

As the price of services provided by the contractor within the scope of this contract a monthly payment shall be effected by purchaser to the Contractor based on the Hire Charge in return for per kWh of the net active energy which is generated at the Power Plant according to article 17 and 18 taking into account also the values given for price and minimum base load.

DEFICIENT GENERATION

Due to causes originating from sources other than Force Majeure circumstances or MIM, MOE and/or purchaser (like breakdown, repair on energy transfer system, Insufficient security), if the net active energy amount generated within one-month operating period proves to be less than the amount guaranteed the service charge shall paid for the amount generated, and a penalty shall be applied to the contractor, multiplying the difference between the amount guaranteed and the net active energy generated thereby by the Hire Charge. (cent/kW h x Base load - actual load generated).

In case the contractor by MOE and/or purchaser to make deficient generation circumstances other than Force Majeure following charges shall be effected for the actual amount generated, the hire charge, and for the difference between the monthly guaranteed amount and actual amount generated the hire charge.

EXCESS GENERATION

If, in any month, the Contractor, upon the request of purchaser and /or MOE, generates in excess of the amount of net active energy in the amount guaranteed, the payment for such excessive generation shall be by applying the Hire Charge.

ARTICLE - 22 INVOICING

22.1. Invoices shall be issued on monthly basis. The meters, which will measure the amount of active energy, generated at the Facility, as well as reactive meter values, shall be read by the representatives of the parties on the day after the last day of each month (the reading data belong to the last day of the month) and a meter reading protocol, a sample of which is provided herewith, shall be drawn up at the site of such a reading on the first day of each month, the Contractor shall issue the monthly invoice of the previous month and deliver it to purchaser.

22.2. The Contractor shall, on the basis of the index fixed according to Article 17.1 issue an invoice under the title of "Hire Charge of Facility" and send this invoice to purchaser.

22.3. The procedures and principles for invoice preparation process as well as the documents to be attached to invoice, shall be determined through a protocol at the stage of entrusting the service to the Contractor.

ARTICLE - 23 PAYMENTS

23.1. The Contractor shall prepare the invoice at the first day of the next month for the related month in terms of USD Dollars, and will deliver to purchaser.

23.2. After delivery of invoice, purchaser, shall pay the invoice cost with in 2 (two) weeks period. If the payment date does not coincide with a working day, the payment shall be made on the first working day that follows.

23.3. In event that the payment is not made in full with in 2 (two) weeks period weekly interest rate shall be applied to the unpaid parts of such payments starting from the due payment date. In the event that this payment for base amount and accumulated interest is not paid within two months, all amount of the late payment interest and default base amounts will be collected from the performance security.

And these payments should be transferable to the other countries without any deduction taxes (except income tax as per law 20 for the year 1998 article [4]) and charges etc. additional to the normal bank transfer fees.

ARTICLE - 24 FORCE MAJEURE EVENTS AND THEIR CONSEQUENCES

Neither party to the contract shall be considered in default and be liable for any loss or damage of any nature whatsoever incurred or suffered by the other party due to omissions delays or default in performance caused by circumstances beyond its control which could not have been reasonably foreseen and provided against by an experienced contractor of employer (as the case may be) in the exercise of due diligence.

Fuel
Supply

Provided always that such party shall continuously exert every reasonable effort to obviate or to minimize such failure.

However, and in all cases force majeure as aforesaid shall not be construed to include any act or circumstance which has been due or is in any way attributable to the contractor or his fault or negligence.

Either party affected by force majeure shall notify the other party of the force majeure and its nature without delay and not later than (14) fourteen days from the occurrence of force majeure. Failure to notify the other party within the said (14) days shall constitute waiver of the rights under this clause.

In case of delays in the fulfillment of obligations caused by force majeure the respective party shall be entitled to claim an extension of the time therefore and the engineer shall determine the extension of time, if any, which shall be reasonable and proper.

In force majeure continues for (6) months, then the parties will meet each other in order to discuss how to complete the works.

ARTICLE - 25 SETTLEMENT OF DISPUTES AND ARBITRATION

In the execution of this Contract, for the settlement of the disputes that may arise between purchaser, MOE and/or MIM and Contractor, final settlement shall be by arbitration under the rules of conciliation and arbitration of the International Chamber of Commerce. The venue of arbitration shall be in Switzerland.

ARTICLE - 26 TERMINATION OF CONTRACT

If the Contractor, after written notification thereto of the defaults identified during the inspections made by purchaser, fails to take the measures states in such notification with 30 (thirty) days or in case of its non-performance with the provisions of the Contract, or its laying down of work, purchaser is entitled to unilaterally terminate the contract without needing any other legal decision, warning or protesting.

In the case of the purchaser is not performing the contractual obligations and/or to fall default on payments two times consequently, contractor has right to terminate the contract without needing any other legal action after giving a (30) days notice in writing to purchaser to over come specified items not fulfilled.

Both sides may terminate the contract with mutual agreement if they can not fulfill the corresponding contract obligations.

In case of termination of Contract, Contractor will get back all equipments and can send out of Country.

ARTICLE - 27 CONFIDENTIALITY

Each party agrees that it shall maintain as confidential and secret all information documents or know-how entrusted to itself by the other party, ensure that their employees, officials and that it shall not disclose them for utilization by the third parties without prior written consent of the other party undersigning the Contract.

ARTICLE - 28 WAIVER

Neither party shall be deemed to have waived any of its rights hereunder unless a written waiver, signed by authorized officials of the waving party, delivered to the other party. Any omission or delay of either party in performing its obligation or rights hereunder shall not be deemed an implicit recognition of waiver.

ARTICLE - 29 NOTICES

All notices of both sides shall be given in writing and also answered in writing.

ARTICLE - 30 ADDITIONAL PROTOCOL

Parties may draw up Additional protocols on issues, that are not included herein, but mutually agreed upon, in such a manner that it shall not be substantially contrary to the essence of this Contract. Provisions of the protocol thus drawn up, shall become effective after the approval thereof by the authorities of the parties, and shall be deemed to form an inseparable and supplementary part of Contract.

ARTICLE - 31 Law applicable to the Contract.

The contract shall be and be deemed to be an Iraqi contract and shall be governed by and construed according to the material law in force in Iraq at the time of signature of this contract.

ARTICLE - 32 Compliance with Statutes Regulations etc.

The contractor shall, in all matters arising in the performance of the contract conform in all respects with the provisions of the Iraqi laws, regulations, ordinances and/or by-laws of any local or other duly constituted authorities and which shall be applicable to the works including contractor's equipment and shall keep the employer indemnified against all penalties and liability of every kind for breach of any such statute, ordinance or law regulation or by-Law.

ARTICLE - 33 EFFECTIVENESS OF CONTRACT

This agreement, upon the submission of the Performance Security to Contractor, signed in one copy on the date of/....../200. and shall become effective. The followings shall be attached to the Contract.

Annex 1 Form of the Performance Security
Annex 2 Fuel Specifications
Annex 3 Metering
Annex 4 Single line diagram
Annex 5 layout
Annex 6 test run parameters

ANNEX 3.

1. MEASUREMENT PRINCIPLES

The measurement principles for the electrical energy generated at energy generation facilities of purchaser are as follows:

- 1.1. Technical criteria and other rules to be complied with, for all the meters, are given in the annex hereto.
- 1.2. Measurement groups namely metering devices and measuring transformer cores shall be at the feeding circuits.
- 1.3. Measurement of active and reactive energy shall be established exclusively for service purpose.

2. READING OF METERING DEVICES

The meters shall be read by the representative of the parties at 10 (ten) o'clock on the day after the last day of each month (the reading data belong to the last day of the month), and a meter-reading protocol, a sample of which is provided in the annex hereto, shall be drawn up at the site of such reading. (The form of the meter-reading protocol table shall be finalised during Contract negotiations according to the type of the meter selected.)

3. INSPECTION AND TESTING

1 (one) month prior to the Contractor's actual commencement of work (commencement date of hire), and thereafter at one-year intervals periodically, provided that a notice is issued by purchaser to the Contractor at least two weeks in advance, accuracy and sensitivity of the measurement system shall be inspected and tested by the two parties' representatives together.

3.1. If at times, other than test dates, either party claims upon inspection, that meters are functioning incorrectly, the contesting party, may request that such meters be tested in the presence of the representatives of both parties. In such a case, the meters shall be tested on a pre-notified and mutually agreed date in compliance with the procedures specified above. If any fault is detected beyond the acceptable tolerances, it is temporarily replaced with an equivalent meter and the dismantled meter is installed in its place only after its calibration on the meter calibration desks. The amount of energy thus incorrectly measured is calculated as specified in Article 18.4 and this situation is established with a protocol.

3.2. If either party claims that the said metering system functions incorrectly, as set in Article 18.3.1. but upon testing, it proves accurate, then the testing expenses are borne by the contesting party.

3.3. In the event that an agreement as to whether or not the metering system functions correctly, cannot be reached as a result of either inspection or testing, the case is caused to be examined by the nearest technical university, competent therefore.

3.4. In the event that one of the parties objects to the result of such an examination, disagreement is resolved according to Article 24.

4. RETROACTIVE ADJUSTMENT

If main meter is found with a broken seal, or if it fails to register, or the measurement made by the meter is found to be inaccurate, the correct amount of the energy within the period of such incorrect measurements, is determined jointly by calculation, taking into account operating hours, loads and relevant historical data.

Foreign Language

NO.	Site	Power MW	First price C/KWh	Named Co.	Second price C/KWh	Named Co.	Third price C/KWh	Named Co.	Nominated Co. for the Site
1	AlQaem phosphate	60	3.28	AKSA	3.55	GENGIZ	3.79	YAPA RASA	AKSA
2	Kubaisa	43	3.25	AKSA	3.75	RASA	4.10	GENGIZ	AKSA
3	Sinjar	35	3.19	RASA	3.47	YAPA	3.59	AKSA	RASA
4	Badoosh	55	3.18	AKSA	3.29	YAPA	3.70	RASA	AKSA
5	Muthana	35	3.60	YAPA	3.83	RASA	4.10	YAPA	YAPA
6	Karbala	35	3.79	RASA	3.81	YAPA	4.10	YAPA	RASA
7	Kufa	34	3.64	YAPA	3.79	RASA	4.29	AKSA	YAPA
8	Rubber & Textiles Diwania	11	3.19	HANCOCK	3.49	AKSA	3.85	RASA	HANCOCK
9	Southern fertilizer	25	3.19	HANCOCK	3.75	GENGIZ	3.88	YAPA	HANCOCK

Foreign
Language

NO.	Site	Power MW	First price C/KWh	Named Co.	Second price C/KWh	Named Co.	Third price C/KWh	Named Co.	Nominated Co. for the Site
1	AlQaem phosphate	60	3.28	AKSA	3.55	GENGIZ	3.79	YAPA RASA	AKSA
2	Kubaisa	43	3.25	AKSA	3.75	RASA	4.10	GENGIZ	AKSA
3	Sinjar	35	3.19	RASA	3.47	YAPA	3.59	AKSA	RASA
4	Badoosh	55	3.18	AKSA	3.29	YAPA	3.70	RASA	AKSA
5	Muthana	35	3.19	HANCOCK	3.83	RASA	4.10	YAPA	HANCOCK
6	Karbala	35	3.22	RASA	3.81	YAPA	4.10	YAPA	RASA
7	Kufa	34	3.40	YAPA	3.79	RASA	4.29	AKSA	YAPA
8	Rubber & Textiles Diwania	11	3.19	HANCOCK	3.49	AKSA	3.85	RASA	HANCOCK
9	Southern fertilizer	25	3.19	HANCOCK	3.75	GENGIZ	3.88	YAPA	HANCOCK

Foreign Language

NO.	Site	Power MW	First price C/KWh	Named Co.	Second price C/KWh	Named Co.	Third price C/KWh	Named Co.	Nominated Co. for the Site
1	AlQaem phosphate	60	3.18	AKSA	3.55	GENGIZ	3.79	YAPA RASA	AKSA
2	Kubaisa	43	3.18	AKSA	3.75	RASA	4.10	GENGIZ	AKSA
3	Sinjar	35	3.19	RASA	3.47	YAPA	3.59	AKSA	RASA
4	Badoosh	55	3.18	AKSA	3.29	YAPA	3.70	RASA	AKSA
5	Muthana	35	3.19	HANCOCK	3.83	RASA	4.10	YAPA	HANCOCK
6	Karbala	35	3.22	RASA	3.81	YAPA	4.10	YAPA	RASA
7	Kufa	34	3.40	YAPA	3.79	RASA	4.29	AKSA	YAPA
8	Rubber & Textiles Diwania	11	3.19	HANCOCK	3.49	AKSA	3.85	RASA	HANCOCK
9	Southern fertilizer	25	3.19	HANCOCK	3.75	GENGIZ	3.88	YAPA	HANCOCK



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Gas Turbine Power Plant Sales

November 19, 2003

Item	Qty	Description	Mega Watts	Price Each	Total
1	4	General Electric - Frame 9 Model # PG9161E Dual Fuel Immediate Delivery	125 MW	US \$31,914,750	US \$127,659,000
2	1	ABB - Model # GT13D Dual Fuel Immediate Delivery	103 MW	26,943,000	26,943,000
3	6	General Electric - Model # LM6000 Natural Gas Immediate Delivery (refurbished)	43 MW	15,240,750	91,444,500
4	2	General Electric - Frame 6B Model # 6551 Dual Fuel Immediate Delivery	39 MW	13,917,750	27,835,500
5	3	General Electric - Frame 5 Model # PG 5361 Dual Fuel Immediate Delivery	25 MW	9,633,750	28,901,250
6	1	Pratt & Whitney - FT8 Powerpac Dual Fuel Immediate Delivery	25 MW	13,833,750	13,833,750
Total					US \$316,617,000

- Above prices do not include transformers and switch gear.
- Equipment is quoted CIF Port – Kuwait.
- Equipment is subject to availability at time of order.

**CPA South
Industrial Development**

From: Tagliabue Filippo, (Trade & Industry) Dep. – (Industrial Development) Sect.
To: Amb. Maiolini Mario, CPA South Deputy
Bjorn Brandtzaey, Trade & Industry Chief
Copy to: CPA South members
Date: 03.12.2003
Subject: Report on the December, 1st 2003 visit to the Petrochemical plant in Kor Az
Zubayr, Basrah province.
Grid: QU 61 58

Participants:

Roger Partridge, CPA South
Filippo Tagliabue, CPA South

We Met:

Wahab A. Nasir, Maintenance Manager
Khaled A. Karem, Power Generation Plant Manager

Introduction:

The plant was designed, installed and commissioned by a JV between the American LUMMS and the German Thyssen in the 1979, but due to the Iran – Iraq war was started up only in the 1988.

The plant has seven different processing lines for the following products:

- Low density polyethylene
- High density polyethylene
- Plastic sheets for crops covering
- Chlorine
- Soda
- P.V.C.
- Hydrolytic acid HCL

The number of the personnel is 3379.

The plant is in relative good shape, it was interested by a extensive extraordinary maintenance program during the year 1992, he reached the maximum production in the 1998, about 60% of the designed production, constantly maintained till the 2002, just before the war the water cooling pipes was renovated and substituted.

DATE:07/12/2003
DRAFTER NAME: FILIPPO TAGLIABUE
RANK/NATIONALITY: Cap. ITALIAN ARMY

CPA South
Industrial Development

The plant is ready to restart the production of plastic sheets, chlorine, low and high density polyethylene.

Two are the key factors to restart the production:

1. 30 Mw of steady, stable and uninterruptible power supply.

This can be obtained with the refurbishment of the gas turbines power plant embedded in the petrochemical complex.

This power plan is composed by four General Electric heavy duty gas turbines model PG5341P with Speedtronic Mark II control.

Three of the four turbines have the rotor blades extensively damaged, and substitution of the variable geometry intake fins has to be envisaged together with the control system complete update.

This job has been identified and advised by Bechtel to CPA Baghdad for the contract award.

2. 120 million cubic feet of gas per day to produce five tons of chlorine per day and four hundred tons of high and low density polyethylene per month.

The **Gas liquefaction plant is located in GRID QU 631 531, three kilometers south of the petrochemical plant**, the connecting pipeline between these two installations is operative and ready to be pressurized, the liquefaction plant is property of the **gas distribution company** and is sourcing the gas from **Rumele oil field**.

Is a matter of priority to get in contact with **TF RIO or CPA Baghdad** to get information regarding the status of the gas separation and distribution chain till the gas liquefaction plant. Without a proper asset and consequent corrective action on this important means is not possible to put again in operation the petrochemical plant.

This consideration should be valid also for the Fertilizers plant, another big consumer of gas for the urea production, this plant will be visited the next week.

(b)(6)

From: (b)(6)**Sent:** Monday, December 01, 2003 5:09 PM**To:** (b)(6)**Cc:**

CIV Ministry of Ind/Minerals

Subject: RE: Basrah Petrochemical Plant

(b)(6)

Our team visited the Basra Petrochemical plant this morning to assess its production capabilities and identify bottlenecks in the production. A comprehensive report will be produced and sent through to you later on this week. I will pre-empt the report by summarising its main conclusions. This will hopefully enable us to move quickly to restore production.

There are three major problems that have to be sorted before normal production can resume.

1) No electricity

The petrochemical plant has its own power generators, four in total, with a total production capacity of 60 MW. Three of them are not working at the moment and the fourth is only partly working. Bechtel has visited the plant and have let out the contract to refurbish the gas turbines. Apparently the contract has been awarded to the American firm John Brown. The total time it will take to refurbish the power plant is 5 months. **Could you chase up or give me the name of the person that could give us a contracting status report in CPA? Keen to find whether the work has been let. Need to move on this as soon as possible.** A second source of power for the petrochemical plant is the grid, but as it takes 5 days to start the production after a power cut this is not a viable option in the current circumstances.

2) Limited supply of (LNG) gas to the production facilities and the gas turbines

The second problem is a limited supply of (LNG) gas from the Rumalia oil field. The nearby South Gas Plant located 3 km from the petrochemical plant is unable to produce the required quantities of gas due to a lack of stable power supply.

3) Access to working capital

The petrochemical company needs access to the remaining USD 2 million of the budgeted USD 3 million from the Ministry of Industry and Minerals as working capital to purchase materials that goes into the production. A complicating factor is that a lot of the materials are purchased abroad and as the banking system isn't working the plant managers need advice on how the purchases can be organised. Maybe an account with the Trade Bank is a solution here if it is up and running already.

CPA South can take the lead on trying to improve the power supply to the gas plant. Would it be possible for you to deal with problem 1 and 3?

Kind regards

(b)(6)

Trade and Industry Team Leader
Department for Economic Planning and Development
Coalition Provisional Authority South (CPA S)

(b)(6)

12/1/2003

-----Original Message-----

From: (b)(6)
Sent: 28 November 2003 12:40
To: (b)(6)
Subject: FW: Basrah Petrochemical Plant

(b)(6)

I was wondering if you were attending the CPA regional meetings in Baghdad

Do you know anything about the Basra Petrochemical SOE...I hear that the plant needs capital to refurbish the 4 gas turbines (40MW total I believe) to get the plant running...if this is the case we should try and find funding asap...get people back to work and increase the amount of refined oil products produced for Iraq

do you know anything about the status of this plant? Ric Ortiz does not

thanks

-----Original Message-----

From: (b)(6)
Sent: Thursday, November 27, 2003 8:40 AM
To: (b)(6)
Cc: (b)(6)
Subject: RE: Basrah Petrochemical Plant

(b)(6)

Thank you very much for the assistance. I will try and turn down the rhetoric on this end.

VR

(b)(6)

-----Original Message-----

From: (b)(6)
Sent: Thursday, November 27, 2003 8:24 AM
To: (b)(6)
Cc: (b)(6)
Subject: RE: Basrah Petrochemical Plant

KBR is not involved in the Basrah Petrochemical Plant .

(b)(6)

-----Original Message-----

From: (b)(6)
Sent: Wednesday, November 26, 2003 10:19 AM
To: (b)(6)
Cc: (b)(6)
Subject: RE: Basrah Petrochemical Plant

Can someone provide a sit rep of the Basra plant. What is the scope of work, why does it cost so much? Who is involved? Who hired KBR Who does KBR report to? Is there a reliable NG supply?

thanks

-----Original Message-----

From: (b)(6)

12/1/2003

Sent: Wednesday, November 26, 2003 5:37 PM

To: (b)(6)

Cc:

(b)(6)

Subject: RE: Basrah Petrochemical Plant

(b)(6)

I understand the issue is primarily the gas fired turbines and their repair. We are trying to scrape together a funding package but the amount we have is 20 million dollars to rehab the turbines. We just can't get that much. I have contacted Sneed Adams with ABB LUMMUS and that is my source. If we had a way to have this completed for \$2 million dollars or less we (meaning several organizations) would go after the money. Any thoughts or insight?

VR

(b)(6)

-----Original Message-----

From: (b)(6)

Sent: Wednesday, November 26, 2003 5:21 PM

To: (b)(6)

Cc:

Subject: RE: Basrah Petrochemical Plant

(b)(6)

KBR has no activity to put the Petrochemical plant into operation. I know that they need help in spare parts, chemicals and expertise and they have no one to help them. Their budget is very limited even for the year 2004 and would not cover proper repair and start up. This plant built and commissioned in 1979 by LUMMUS and produce products that is needed badly in the country.

Any other information, I will be glad to provide you.

(b)(6)

-----Original Message-----

From: (b)(6)

(b)(6)

Sent: Wednesday, November 26, 2003 8:02 AM

To: (b)(6)

Subject: FW: Basrah Petrochemical Plant

Gentleman:

By way of introduction (b)(6) referred me to you regarding the Basra Petrochemical plant. I work in the CJTF-7/ C-9 Civil Affairs and we heard a rumor KBR was working at this facility. This plant has a lot of command attention due to jobs and it's potential viability for future profits.

VR

(b)(6)

-----Original Message-----

From: (b)(6)

Sent: Wednesday, November 26, 2003 4:43 PM

To: (b)(6)

12/1/2003

Cc: (b)(6)
Subject: RE: Basrah Petrochemical Plant

Thanks (b)(6)

(b)(6)
See if (b)(6) can help you.
(b)(6)

(b)(6)

-----Original Message-----

From: (b)(6)
Sent: Wednesday, November 26, 2003 4:37 PM
To: (b)(6)
Cc: (b)(6)
Subject: RE: Basrah Petrochemical Plant

The Basrah Petrochemical Plant belongs to the Ministry of Industry and Minerals . I will be happy to give any information needed .

(b)(6)

-----Original Message-----

From: (b)(6)
Sent: Wednesday, November 26, 2003 7:29 AM
To: (b)(6)
Cc: (b)(6)
Subject: RE: Basrah Petrochemical Plant

(b)(6) based on your note below Moaid may be the best POC.

(b)(6)

-----Original Message-----

From: (b)(6)
Sent: Wednesday, November 26, 2003 4:13 PM
To: (b)(6)
Cc: (b)(6)
Subject: RE: Basrah Petrochemical Plant

(b)(6)

(b)(6)

Do you have a POC in the RSO office that I can link up with to possibly answer his question?

(b)(6)

-----Original Message-----

From: (b)(6)
(b)(6)
Sent: Wednesday, November 26, 2003 4:03 PM
To: (b)(6)
Subject: Basrah Petrochemical Plant

12/1/2003

(b)(6)

It was nice chatting with you today. I would appreciate any information you can give me on any KBR activity around the Basrah Petrochemical Plant or anything you have heard on the facility.

Thank you,

(b)(6)

12/1/2003

(3) Alternatively it is possible to install frame (6) units in the shailba gas turbine power plant. frame (6B) 2 units to enhance the plants capacity.

(4) frames (A) as per item (1) could be used in the Khor Al Zubair power plant to replace existing ABB 4 X 65 megawatt gas turbines (only two are operational at low capacity).
and the removed ABB gas turbines could be rehab

(5) other gas turbines may be utilized by the ministry of electricity.

Note / the ~~electricity~~ ministry of oil refused to give any gas to the north or mid of Iraq & only agreed for Basra due to gas shortage.

(b)(6)

(1) The petrochemical plant in Basra.

have 4 Frame (5) gas turbines delivered in 1978.

(3) units are out of operation and (2) gas turbines require overhaul and replacement of turbines the (4)th unit requires major overhaul.

(3) frame (5) units as per item (5) of the list could be purchased to replace the three units out of operation in the petrochemical plant. all necessary gas supply lines, electric power net work are available

Note / (A) the cost of refurbishment of the (4) turbines is about 7.8 million US\$. against 28.9 million US\$.

(B) the type of turbines at petrochemical plant frame (5) GTG & the

ones offered frame (5) model HP G5361

(2) The Southern fertilizers Co. / Basra-Khor Al Zubair require 25 MW of electric power, they have natural gas facilities and it is suggested to provide a gas turbine (frame 6B) as per item (4) to cover their requirements & could be connected to the net work. but this solution requires switch gear & transformers & sub station.

3. **Al-Qaem site for phosphate fertilizer & cement requires** in total 60 mw. & a gas pipeline of 16" reaches the plant & we suggest to install (3) gas turbines as per item (3) to feed the plants & to be connected to the network.

This will enhance power generation in the Al-Qaem region & provide the necessary short circuit level for plant operation.

Minimum base load for lowest capacity ~ 32 mw & for max capacity reaches 60 mw.

4. **Khor Al-Zubair/** gas turbine power plant belongs to Ministry of Electricity which feeds the iron & steel industry & was commissioned in 1977 with 4 x 65 mw B.B.C units.

Two are operating at very low capacity & two are out of operation.

We suggest installing at least 2 units of 125 mw general electric-frame (9) units in stead of the four oiling units & carrying out the necessary changes.

The units to be removed should be rehabilitated & sent to Najaf power plant where there are three units (one out of operation).

5. The other units could be utilized by the ministry of electricity in their gas turbine power plants in Shaeba Basra, Diwania, Taji, Dora, Mosul, Kirkuk & Baiji.

Finally the main emphasis to be made on petrochemical plant & fertilizer plants in Basra due to availability of gas pipe line at the site.

And some pressure on Ministry of Oil & Ministry of Electricity for the suggested power generation plant in Al-Qaem.

Best Regards...

(b)(6)

Dec. 1. 2003

To the attention of (b)(6) MIM Senior Advisor

Dear Sir,

We under line below two possible ways to utilize the gas turbines for MIM's major companies based on availability of natural gas and fuel alternatives (mainly H.F.O.).

1. **Petrochemical plant/** 4 x Frame 5 GTG [G.E.] gas turbines are available and already connected to the national electricity grid. One is operating at 15 mw & the other three are out of action & require rehabilitation the turbines were erected in 1976 by John-Brown Co.

We suggest that the offered (3) gas turbines as per item (5) of the list to replace the three gas turbines out of action.

The old gas turbines could be rehabilitated at a cost of 7.8 million us\$ as per offers available & used by the electricity in Shaeba or other sites.

The total requirements of the petrochemical plant when operating at full capacity is about 79 mw.

Minimum power for ethylene + one line L.D.P.E. \approx 25 mw [includes utilities] for the full operation of ethylene + 2 lines L.D.P.E. + 1 line H.D.P.E. \approx 35 mw for chlorine + VCM - PVC line \sim 45 mw (62 cells).

2. **Southern fertilizer plant/** requires (25) mw for full operation with two line & 17 megawatt for one line + utilities.

We suggest to install (2) gas turbines of 39 mw with a new switch gear & transformers to connect to the central grid & to feed the fertilizer plant.

A gas pipe line of 42" reaches the site and this system will be similar to the gas turbine plant in the petrochemical plant wich feeds both the plant & the net work.

Southern Cement: Kufa

Peak Demand: 29MW

Propose: 1X GE Frame 5 = 25MW

Unmet peak power demand drawn off of the grid

Basra Petrochemical:

Peak: 50MW

Propose: GE TM5000 Trailer Mounted genset = 24MW

Provide power while 3 of the 4 existing gas turbines on site are repaired

Once the repairs are completed, this mobile genset would be applied to other SOEs on a temporary basis. This mobile genset should not be permanently integrated into the grid

Balance of Donated Gas Turbines:

1X GE Frame 9 = 125MW

Fuel: Dual Fuel

2X GE LM6000 = 86MW total

Fuel: Natural Gas

1X GE Frame 5 = 25MW

Fuel: Dual Fuel

(7920 hrs) (300,000 kWh)

(11 months) (30) (24) = 7920 hrs

.032 / kWh

Southern Fertilizer:

Peak Demand: 25MW peak

Propose 1X GE LM6000 = 43MW

Fuel: Natural Gas only (need to re-confirm that the fuel supply is reliable)

Balance of power not used sent to the grid

Al Qaem: Phosphate Fertilizer and Cement:

Peak Demand: 60MW

Propose 2X GE LM 6000 = 86MW

Fuel: Natural Gas only (need to re-confirm that the fuel supply is reliable)

Balance of power not used sent to the grid

Khor Al-Zhubair: Ministry of Electricity Power Plant that supplies electricity to steel SOEs

Currently, there are 4X65MW gas turbines = 260MW 2 turbines are down

Propose: Replace 2 down turbines with 2X GE Frame 9 = 250MW giving total plant capacity of 380MW

Fuel: Bunker C

2 down turbines sent for rehab

Rubber and Textiles:

Peak Demand: 11MW

Propose: 1XGE Frame 5 = 25MW

Fuel: Bunker C

Balance of power goes to the grid

Northern Fertilizer:

Peak Demand: 10MW

Propose 1XLM6000 = 43MW

Fuel: Natural Gas (need to re-confirm that the supply is reliable)

Balance of power goes to the grid

Iraqi Cement: Kubaisa/Anbar

Peak Demand: 43MW

Propose 1 X Frame 9 = 125MW

Fuel: Bunker C

Balance of power goes to the grid

Northern Cement: Sinjar

Peak Demand: 35MW

Propose 1X GE Frame 6B = 39MW

Fuel: Bunker C

Balance of power goes to the grid

Northern Cement: Badoosh

Peak Demand: 55MW

Propose 1X Frame 9 = 125MW

Fuel: Bunker C

Balance of power goes to the grid

Southern Cement: Karbala

Peak Demand: 34MW

Propose: 1X GE Frame 6B = 39MW

Fuel: Bunker C

Balance of power goes to the grid

Summary Report of the Economic Viability of MIM PPA regarding the Role of MoE

Background

After realizing that the lack of electrical power is the most significant impedance to reviving the manufacturing capability of Iraq, the Ministry of Industry and Minerals (MIM) solicited various Independent Power Providers (IPP) to provide independent power plants at 9 industrial sites across Iraq. The IPPs were asked to provide electrical power on a cents/kWh rate, which would be paid on a monthly basis by MIM. Four of the forty-three respondents were selected on the basis of their proposed rate and corporate reputation. Negotiations between the four IPPs and MIM have resulted in a fixed price between 3.2 and 3.8 cents/kWh, with an average of less than 3.5 cents/kWh. The terms of the Power Purchasing Agreement (PPA) call for the MIM to pay capital costs (transformers, pads, connections to the electrical grid...), along with the cost of security and fuel. Commissioning, Control, and all O & M costs are to be provided by the IPP. The combined full production power requirement of the 9 industrial sites is approximately 330 MW. MIM recognizes that an excess of roughly 40% of the total power output from the plants will remain unused for a significant period of time. Therefore, MIM has entered negotiations with the Ministry of Electricity (MoE) for purchasing this power and adding it to the national electrical grid. The results of a review of the MIM PPA, conducted by CPA - Electricity, are listed below.

PPA Cost Summary

Term: 5 years

Fixed Cost: 3.50 c/kWh (Stated by MIM contract)

Capital Cost: *Currently under negotiation between IPP, MIM and MoE.*

Fuel Cost: 2.77 c/kWh (CPA Calculations)

Total Cost (Fixed + Fuel): 6.27 c/kWh (CPA Calculations)

PPA Monthly Cost: \$12,717,119.31 (CPA Calculations)

PPA Lifetime Cost: \$736,026,158.67 (CPA Calculations)

Note 1: The "Fuel Cost" calculation is based upon a market price of \$140/mton HFO.

Note 2: A 5% fuel transportation cost has been added into the "Fuel Cost".

Note 3: All costs are approximations, and are subject to minor changes.

Significant Items requiring further Negotiations

1) Further negotiations are necessary in order to resolve issues concerning the Ministry responsible for the initial capital cost of the PPA. MIM believes that all initial capital costs (i.e. transformers, pads, connections...) should be supported through funding provided by MoE. MoE intends to negotiate that the majority of the initial capital cost of the PPA be funded through the IPP. MoE believes that they should only be responsible for connection to the grid, whereas, MIM or the IPP would be responsible for transformers and pads.

2) MoE is concerned with the total amount of electrical power available for purchase from MIM by MoE. MoE believes that there will be a large additional amount of electrical power added to the grid in less than 4 months. The PPA will free up power currently consumed at the 9 sites, and will put excess power back into the grid. However, the quantity of this power has yet to be determined. MoE believes that the factories, which are covered by the PPA, will operate only one or two shifts for the first one to two years of the PPA. This will free up a large amount of electrical power to be used at night by residents, when they need it most. MoE has requested documentation from MIM regarding the scheduled loads at each of the factories. This information is to be used for planning the MoE budget allocation for the project.

3) The cost analysis of the PPA shows that the "PPA Lifetime Cost" is roughly the same or greater than the cost of purchasing the power plants. The "PPA Lifetime Cost" is acceptable due to the high risk incurred and lack of credit in Iraq. Note that once the security situation stabilizes, the contracts should be renegotiated at a lower rate.

4) An option to purchase the power plants, at the end of the Contract Lifetime, should be added to the contract. The power plants may still be necessary in five years. At that time the MIM may be in a much better financial situation to purchase the power plants.

Analysis and Conclusions

Overall, the PPA appears to be a significant and well thought out initiative on the behalf of MIM. At first glance, the costs of the PPA appear to be exorbitantly high. However, the risk assumed by the IPP is very large, when the current security situation and economic uncertainty of Iraq are considered. Assuming limited, if any, Coalition assistance, the PPA is appropriately priced.

The monthly profits of the factories at each of the proposed sites are nearly equivalent to the monthly cost of operating the power plants. Assuming that 60% of the electrical power is consumed by each of the factories, while the remaining 40% is purchased by MoE, the plants will be able to retain a reasonable amount of profit.

Note that if the PPA is agreed upon as it currently exists, the cost of certain products, such as cement, will be driven significantly higher than they existed before the 2003 conflict. The MIM is currently working to develop a policy that maintains the cost of certain items (i.e. cement) at their prewar values for the average residential consumer, while charging the market price to all other consumers. This plan will assist the factories in remaining profitable, assuming that it can be enforced.

The MoE faces a different problem. MoE has not collected any revenues since the end of the 2003 Conflict. Therefore, MoE does not have the ability to enter into an agreement of this type without assistance from CPA. MoE states that the PPA will significantly benefit the country, because it will add an additional 330 MW to the electrical grid in a short period of time (under 4 months). MoE has proposed that the first 18 - 24 months of the contract be funded by CPA.

The inherent financial difficulties caused by the MIM PPA can be significantly offset if a Coalition Nation were willing to make a guarantee on the terms of the PPA. The MIM fixed cost of "3.5 c/kWh" could be reduced to nearly "1 c/kWh". The MIM and MoE are significantly more likely to be able to fulfill payments at a rate negotiated with the backing of a Guarantor Nation. In this situation, the MIM would remain responsible for all scheduled payments. However, the Guarantor Nation would be responsible for the debt, if the MIM eventually defaulted.

The PPA is very expensive with a Lifetime Cost of roughly \$736,026,158 to be paid over 5 years. However, considering a commissioning date of less than four months, the dispersed availability of power, and the limited Coalition involvement, the PPA has the possibility of a very positive, fast, and high-impact on the Iraqi electrical grid, industrial sector, and residential quality of life.

CPA calculated Operating Cost of MIM PPA

Fuel Oil Conversion

Type (CST)	Gal/Mton
80	281.2
180	277.4
230	276.6
280	275.9
Avg	277.775

Price

\$/ton	\$/bbl	\$/gal
140		0.50400504

Constants

Gal/bbl	Ratio	BTU/kWh
42	1.05505	3412

HEC6 HHV	HEC6 LHV	HEC6 HHV	HEC6 LHV
140000	150500	8150	0.95

Calculations

\$/gal	\$/bbl	\$/ton	\$/Mton	\$/kWh	\$/MWh	\$/GWh	\$/TWh
5.04E-01	2.12E+01	3.60E-06	3.60E+00	3.41E-06	0.03	0.03	2.64

Transport
Fuel
(5%)

Cost (\$/kWh)		
Fuel Cost	3.5	3.5
Fuel Cost	2.6	2.8
Total Cost	6.1	6.3

CPA and MIM Price Comparisons

Table 1: Fuel Oil Conversion

Type (GSI)	Gal/Mton
80	281.2
180	277.4
230	276.6
280	275.9

Avg 277.775

Table 2: Data provided by MIM

Factory	GWh/Month	HFO (T/M)
Al Qaem	39	9750
Kubaisa	27.95	6987.5
Sinjar	21	6250
Badoosh	35.75	8937.5
Kufa	18.9	4725
Karbala	21	5250
Al Muthanna	18.36	4590
Tameem	6.336	1584
Southern Fertilizer	14.4	3600
Totals	202.696	51674

Table 3: Estimated Cost of Fuel Oil

\$/ton	\$/bb	\$/gal
140.00	21.17	0.50

Table 4: CPA Calculated Fuel Cost (w/transport)

¢/kWh	¢/kWh	\$/GWh
2.77	0.03	27,739.86

Table 5: Fixed Cost (Determined by PPA)

¢/kWh	¢/kWh	\$/GWh
3.50	0.04	35,000.00

Table 6: CPA Calculated Cost (Fixed + Variable)

¢/kWh	¢/kWh	\$/GWh
6.27	0.06	62,739.86

Table 7: Monthly Fuel Costs

	MIM Calculation	MIM Calculation	CPA Calculation	CPA Calculation
Factory	Fuel Cost/Month	Fixed + Fuel Cost/Month	Fuel Cost/Month	Fixed + Fuel Cost/Month
Al Qaem	\$ 1,365,000.00	\$ 2,730,000.00	1,081,854.66	2,446,854.66
Kubaisa	\$ 978,250.00	\$ 1,956,500.00	775,329.18	1,753,579.18
Sinjar	\$ 875,000.00	\$ 1,610,000.00	582,537.13	1,317,537.13
Badoosh	\$ 1,251,250.00	\$ 2,502,500.00	991,700.11	2,242,950.11
Kufa	\$ 661,500.00	\$ 1,323,000.00	524,283.41	1,185,783.41
Karbala	\$ 735,000.00	\$ 1,470,000.00	582,537.13	1,317,537.13
Al Muthanna	\$ 642,600.00	\$ 1,285,200.00	509,303.89	1,151,903.89
Tameem	\$ 221,760.00	\$ 443,520.00	175,759.77	397,519.77
Southern Fertilizer	\$ 504,000.00	\$ 1,008,000.00	399,454.03	903,454.03
Total	\$7,234,360.00	\$13,967,002.00	\$5,355,008.87	\$12,449,368.87
w/Transport	\$7,596,078.00	\$14,328,720.00	\$5,622,759.31	\$12,717,119.31

Note 1: The "MIM Calculated Cost" was derived from Table 4 of this worksheet.

Note 2: The "Fuel Transportation Costs" assume 5% for transport.

Table 8: Total Cost of 5 Years

MIM	CPA
\$838,020,120.00	\$746,962,132.07
\$859,723,200.00	\$763,027,158.67

w/out
Transport

w/Transport

STATE ENTERPRISE OF FERTILIZERS/SOUTHERN REGION**FINANCIAL PLAN FOR PURCHASE OF 22 MW GENERATOR****Background**

Iraq has two large production units for urea, The Northern Fertilizer Company near Bayji with a production capacity of 500,000 ton and the Southern Fertilizer Company (SFC) near Basra with a production capacity of 1,060,000 ton. Both of the enterprises are according to the latest CPA information not producing any urea at the moment due to lack of stabile supply of power. The SFC is in reasonable condition and the management estimates that the company can produce 500,000 ton urea annually increasing to 850,000 ton per year with an investment of USD 13 million in necessary equipment and spare parts. The total demand for urea in Iraq is estimated to 350-400,000 ton per annum. The current world market price for urea fob is approximately USD 180/ton giving the SFC potential annual revenues of USD 153 million at today's world market price. The operating margins for the SFC if the company is allowed to charge close to world market prices for its output, is more than 70% which could give the company a net income of more than USD 100 million.

The production of urea is very sensitive to interruptions in the power supply. A power cut of 3-5 seconds can result in a collapse of the whole production process. It then takes 7-10 days before the production of urea can resume. Because of the sensitive production processes, it is vitally important for the urea production to have a stable supply of power. Stable and uninterrupted power in the short and medium term can only be guaranteed if the fertilizer factories get their own generators.

The Independent Power Purchase (IPP) Alternative

The Ministry of Industry and Minerals has invited independent power producers to bid for contracts to provide power to the Southern Fertilizer Company. The contract requires the power producer to guarantee MW 20 of stabile and uninterrupted power for the next five years and does also include an operating and maintenance agreement. SFC is responsible for providing the gas to power the turbines. The total cost of this agreement for the SFC is USD 5,512,320 annually or USD 27,561,600 for the five year period. The contract gives the power producer the right to remove the generator after the end of the five year period. The SFC has to provide a performance security of USD 5,512,320, effectively a bid bond when signing the contract. The contractor guarantees that the generator will be installed four and a half months after signing the contract.

The Outright Purchase Alternative

CPA S has worked closely with the management of the SFC to find alternative solutions for power provision for the company. The head of the power team in CPA South, Robert Apsley, visited the SFC Saturday 30.01.04 to discuss SFC's power requirements with the management and electrical engineers in the plant. They agreed that the best initial solution would be to install a 22 MW generator as a primary source of power. The quotes CPA S has received from providers of generators in the Gulf hovers around USD 11 million for a zero rated 22 MW machine. If we go for a

portable solution, a generator can be installed in three months, making it possible to start production in mid May 2004. Raising finance for the purchase of a generator is the biggest obstacle to an outright purchasing solution.

The most cost effective and quickest way of raising finance for the 22 MW generator is to borrow the money from the Ministry of Agriculture.

- Ministry of Agriculture (MOA) provides a loan of USD 12 million to the SFC for the purchase of the 22 MW generator. The funds will come out of the USD 200 million agriculture subsidy in the MOA budget for 2004. The loan will be interest free and will be repaid in six monthly installments of USD 2 million. The first installment will be paid 31 July 2004 and the last 31 December 2004.
- The MOA will agree to purchase an average of 40,000 metric tons of urea per month from the SFC, starting 1 June 2004 or a total of 280,000 metric ton in 2004. The urea sales price from the SFC to the MOA is USD 100 per metric ton equating to a monthly income of USD 4 million. The MOA will pay the monthly invoice the last working day of each calendar month. The SFC will raise a monthly invoice to the MOA deducting USD 2 million representing the loan repayments. All invoices and repayments between the SFC and the MOA will be denominated in US dollars.
- If SFC's production exceeds 40,000 metric ton of urea per month, the company is entitled to sell the excess production to the MOA for USD 130 per ton. If the MOA declines to purchase the extra urea, the SFC is entitled to export the balance of the urea and to get paid the world market price for the exports which currently is around USD 180 per metric ton.

The SFC is a very profitable enterprise and will be able to pay off the loan of USD 12 million by the end of this financial year if the project is approved. We estimate that this purchase solution will save the SFC over USD 17 million over the next five years.

Recommendation

CPA South strongly recommends that the Iraqi government/CPA facilitates an interest free loan of USD 12 million for the SFC to purchase a 22 MW gas turbine facility by agreeing to the terms listed above. If the MIM authorize this deal to go through quickly, the providers of generators have indicated that they can have a 22 MW generator installed by 1 June 2004.

(b)(6)

Trade and Industry
CPA South

As of 18 Jan 04

**CONTRACT
FOR HIRING OF POWER PLANTS
AND THEIR OPERATION
THROUGH PURCHASE OF SERVICE**

Latest version

CONTRACT FOR HIRING OF POWER PLANTS AND THEIR OPERATION THROUGH PURCHASE OF SERVICE

ARTICLE 1- PURPOSE

The object of this contract is to purchase electric power from power plant with total capacity of 60 MW, in Al- Qaem (Anbar) region, according to the terms and conditions hereof, the contractor shall operate and maintain it to supply the electric power.

ARTICLE 2- SCOPE

This Contract includes the manners and basis of location of the power plant at Al-Qaem region, by connecting it to the substation and operation, according to the provisions of this contract, by the Contractor.

ARTICLE 3- DEFINITIONS

3.1. MIM

It means Ministry of Industry and Mineral.

3.2. MOE

It means Ministry of Electricity.

3.3. PURCHASER

The State Company of Phosphate fertilizer and Iraqi Cement Co. Al Qaem Cement Plant.

3.4. CONTRACTOR

It means the firm AKSA ENERJI ÜRETİM A.Ş. who sells electric power to Purchaser and accepts and undertakes the services specified herein.

3.5. PARTIES

One of the parties of this Agreement is The State Company of Phosphate fertilizer and Iraqi Cement Co. (Al Qaem Cement Plant) which will, hereinafter, be referred to as Purchaser and the other party is AKSA ENERJI ÜRETİM A.Ş which shall be referred to as Contractor.

3.6. AUTHORISED REPRESENTATIVE

The Contractor represented by his authorized, representative shall within 15 (fifteen) days at the latest after this Agreement comes into effect to carry out the works within the scope of this Agreement and be in charge thereof towards Purchaser (the Contractor shall notify Purchaser of the name and title as well as the address of their authorizes representative designated for this purpose).

3.8. DEPLOYMENT

Construction of power plant at Al-Qaem region means, construction of the plant and connecting it to the substation, and erection of the equipment in such a way that they will be ready for operation.

3.9. GRID (SYSTEM)

It is the national electric power generation and transmission (interconnected system) system.

3.10. PROJECT APPROVAL

Contractor shall present within 7 days from the signature of the contract the following documents for approval. MIM, MOE & purchaser shall give their approval or comments & return to contractor within 15 days from day of receipt

- Single line diagrams of the system and method of connection to substation.
- General location layout and the deployment area of the power plant.
- Technical documentation related to contractors equipment for the power generation plant

and technical parameters of power generation plant in case of delay in approval by MIM, MOE & purchaser the time schedule shall be extended accordingly in case of delay by contractor in presenting the documents or completing the information the additional time shall not affect the commencement date of power supply.

3.11. COMMENCEMENT DATE OF WORK

The Commencement date of work is 15 days after the signature of the contract with the following being completed:

- The handing over of deployment area for the power plant by purchaser as per approved layout.
- The exchange & handing over of mutual performance securities which shall be presented by both sides.

3.12. COMMENCEMENT DATE OF HIRE

It is the date on which, the acceptance protocol is, upon successful completion of the acceptance tests at the facilities, signed by the Acceptance Committee formed in compliance with the Contract, and the facility is put into service and power is supplied accordingly.

3.13. ACTUAL EFFECTIVE SERVICE PERIOD

It is the time period, after the Commencement Date of power supply & continues for 60 (sixty) months.

3.14. CAPACITY OF THE FACILITY

It is capacity level of the Facility which is determined with respect to the maximum constantly produceable capacity level at the Facility, on the basis of minimum heat value of the fuel without performing any maintenance work other than that previously defined by normal maintenance procedures and also without the necessity of special measures and special operator attention.

3.15. MEASUREMENT GROUPS

The measurement system at the Facility for the measurement of the net kWh delivered to the system, consisting of meters, current and voltage transformers feeding thereto and the secondary circuits.

3.16. MEASUREMENT POINT

The location of connections of current and voltage transformers, feeding the meters of measurement groups on which kWhs delivered to the systems are measured.

3.17. kWhs DELIVERED TO THE SYSTEM

The amount of active electric energy generated by the Facility & dispatched to the network.

3.18. REGIONAL LOAD DISPATCH CENTER

It is Load Dispatch Center in the region where the facility is located and to which the Contractor will contact for the execution of service and a telecommunication system shall be installed between power plant and substation by the contractor.

3.19. MOE AUTHORISED PERSONEL

The officials of the related MOE in the location where the Facility deployed therein, is situated.

3.20. UNIT

Each generation unit, which comprises the Facility and connected via contractors' busbar to the system as per MOE's approval.

3.21. MONTHLY PERFORMANCE VALUES

It means the monthly net electric power generation, which is based on the capacity of facility (60 MW) multiplied by monthly operating period guaranteed by the Contractor (minimum base load, i.e.: 650 hr x 60 MW = 39.000.000 kWh/month) for each month during service period, base load deviation during the remaining 70 hours of the month to be given & should not effect plant operation.

3.22. FACILITY

It means the power plant consisting of power generation units, automatic control system of power plant, switchgear between the power plant and substation, fuel treatment units and its associated equipment which will be deployed by the Contractor at Al- Qaem Region.

3.23. ACCEPTANCE COMMITTEE

The Acceptance Committee will be formed by Purchaser, MOE and MiM for the acceptance of the facility.

3.24. Monthly payment for electric power

It means the monthly net payments (in USA Cent/kWh) to be made by Purchaser per kWh net active energy which is received and is measured by the metering system in such plant multiplied by the unit price of 3.18 USA cent / kWh in return for the services of contractor placing the power plant with a capacity of 60 MW in Al-Qaem region, in such a manner as to satisfy the performance values, keeping the plant in good operating condition for the duration of 5 (five) years of operation according to the contract terms.

And these payments should be transferable to the other countries without any deduction of taxes (except income tax) and charges ...etc. additional to the normal bank transfer fees.

ARTICLE 4- PRINCIPLES

Provide electric energy continuously all through the 24 hours of a day/month/year and service continuity are the essential requirements for the services to be provided in the Facility defined in this Contract. The Contractor shall make maximum efforts and sacrifice in respect of the services he will render in order to achieve highest level of benefits and efficiency.

ARTICLE 5- CONTRACT LANGUAGE

This Contract and its annexes and all forms shall be prepared in English and written Communications and discussions to be held between the parties shall be made in English and this English text shall be accepted as the binding document.

ARTICLE 6- TERM OF CONTRACT

The term of the Contract is 64 (sixty four) months from the Commencement Date of Works. Of this duration, 4 (four) months' are for the deployment of the plant, connection to the factory substation by the Contractor according to the provisions of this contract, and hence the actual effective service period is 60 (sixty) months. If the Contractor complete the deployment period before 4 months this period will be added to the 60 months actual effective service period. During this period, the Contractor shall take all possible measures to execute the work as contemplated.

The Contract can be extended, subject to mutual agreement with the mutually agreed terms, if the contract will not be extended the Contractor has right to disassemble all engines and related equipments and send out of the country.

ARTICLE 7- PERFORMANCE SECURITY

The Contractor shall give to Purchaser a bank guarantee amounting 3 (three) % of the minimum annual base load price in USA \$, as Performance Security with 12 (twelve) months validity. The Bid Security presented by the Contractor shall be returned with the presentation of this Performance security of Contractor. This performance security of Contractor shall be returned to the contractor at the end of the validity date.

Purchaser shall give to Contractor a Performance security with the amount ofUSA Dollars, (which is the multiplication of base load kWh with plant power and price for one year) with one year validity renewable for 5 years with the same full amount in the form in Annex 1.

This performance security to be given from the Iraqi bank for trade with the endorsement of Ministry of Industry

This Performance Security shall be released after immediately up on completion of contract period.

ARTICLE 8- INSURANCE AND SECURITY

Issuance of insurance against all sorts of risks related with the subject work and facility of the Contract, and all necessary procedures and expenses related to the said insurance shall be under the liability of the Contractor.

During the period of transportation, installation and operation it is the liability of Contractor to protect the equipment however purchaser shall render assistance with their authorities MIM, MOE to help providing the necessary protections.

All kinds of help and support will be given to the Contractor about issuance of insurance against transportation, fire, breakdown and sabotage and providing security.

ARTICLE 9- TAXES, ^{and duties,} PERMISSIONS

The exemption from all taxes, duties, custom dutie, charges, fund, VAT, and contract contributions, and all other similar expenses, which may result from the signing of this contract, shall be covered by Law 20 of 1998 & the order of the coalition provisional authority no. (39) of 19/9/2003 concerning the foreign investment in Iraq.

The exemption from the income taxes up to 30% only as per law 20 of 1998 article 4.

All necessary permission for import and export of equipments, parts and consumables, temporary importation of the equipment and the construction equipment, and all work permissions of the construction and operation personal shall be provided by MIM.

The Contractor shall be free to transfer their income and all profit from this contract to outside of the country.

ARTICLE 10- COMMENCEMENT DATE OF HIRE AND DELAY OF WORK

The date of signature of the acceptance protocol by the acceptance committee after completion of performance tests on power generation plant shall be the commencement date of hire & the month after this date shall be taken as a basis for the commencement of monthly payments for actual electric power supplied by contractor.

The date of commencement of hire shall not exceed 4.5 months from date of signature of contract in case of delays the following shall be taken in to consideration:

10.1- From the Commencement Date of Work specified in the Contract, delays due to the reasons that originate from the Force Majeure events the necessary time extension will be given as per clause (24).

10.2- Due to the reasons originate from the Contractor, the Contractor notifies MIM in writing the reasons of delay if any delay occurs. In case of occurrence of a delay, which originates from the Contractor, the delay penalty shall be the price of energy multiplied by minimum base load in kWh for the period of delay shall be applied to the Contractor. Applied penalty cannot be more than 7% of the yearly contract price in case of exceeding this purchaser has the right to terminate the contractor.

10.3- If facility is ready for acceptance test the contractor shall inform purchaser of his readiness to conduct tests & after approval by purchaser a three week notice to be given in case MOE, MIM and/or purchaser is not ready to get energy, purchaser shall pay price of energy multiplied by minimum base load in kWh bases, for the period delay to the Contractor..

ARTICLE 11- WORK SCHEDULE

The Contractor shall carry out the work within the scope of this Contract in accordance with the conditions hereof and on the dates specified in the work schedule attached. In case of emergence of any one of the conditions set forth in the article of force majeure, which adversely affects achievement of the dates in the work schedule, both side shall meet to discuss the mater.

11.1. SYSTEM CONNECTION

The line required for the connection shall be designed by the Contractor. All related pictures, projects, documents and information for the system in operation which will enable the Contractor to make connection to the system, will be provided by MIM, MOE and purchaser. The single line diagram prepared by contractor shall be approved by purchaser MOE before contract signature.

ARTICLE 12- RECORDING OF INSTRUCTIONS AND SUBMISSION OF METERING INFORMATION

The Contractor shall comply with the instructions given by MOE and purchaser and inform the related such centre, by a letter handed over to purchaser or other similar communication means, of the following data to be utilised by MOE for statistical or system control purposes. These are:

- Values recorded by energy meters,
- Active power and reactive power values received from and supplied to the grid and voltage values (P, Q and V)
- Other information on electric power system to be provided whenever requested by the MOE' s authorised personnel and at intervals mutually agreed upon.
- Direct telephone communication between contractor & MOE substation.

ARTICLE 13- ANNUAL, MONTHLY PROGRAMS

13.1 ANNUAL PROGRAM

The Contractor guarantees the provision of annual program values in accordance with the following conditions:

- Estimated and net annual, monthly, weekly electrical energy generation amounts for each unit
- Estimated forced outage period
- Estimated commencing and terminating dates of programmed outages such as maintenance and inspection, revision
- A loading programme to be submitted

13.2 MONTHLY PROGRAM

The Contractor may revise the monthly generation program, contemplated in the annual energy generation program prepared within the contract term according to Article 13.1. every month for the month that follows it. Monthly revised generation program shall be informed to MOE in writing by the Contractor by the 25th (twenty fifth) of the month that proceeds the month it is arranged for. Any revision in monthly program shall be approved by MOE.

ARTICLE 14- OPERATING PRINCIPLES

The Contractor is obliged to work in harmony with the system and comply with all the conditions set forth in this Contract. The total of the electrical energy generated in the Facility and the utilisation right thereof are at MOE's disposal. The Contractor shall provide services at the Facility, in such a manner that it shall generate electrical energy for 24 hours per day in line with the

operation-maintenance instructions and requirements of purchaser and shall insure direct communication with substation.

The operation, maintenance and repair service to be provided at the power plant shall be carried out by the personnel whose qualifications and numbers are in consistent with those prescribed therein.

The Contractor shall take all the measures concerning the execution of operation and maintenance services in an effort to maintain the electrical energy generation at its highest level to cover purchaser requirements. Acting as an efficient and economic operator and making full use of the available capacity are the main aspects for which the Contractor shall be responsible.

The purchaser and MOE will take all the measures to get and distribute the energy produced by the facility. The operating parameters shall be in conformity with MOE's regulation for 14.1, 14.2 & 14.3.

14.1. Power Factor

The units shall operate under excited or over excited within its $\cos\phi$ rating and limits of load capability curve, whenever needed by the system. As per MOE's specifications.

14.2. Synchronisation

All kinds of arrangements for entering into parallel with grid shall be installed on the facility side while the arrangements of voltage and frequency conditions will be provided by MOE, also the facility shall be design in such a manner that when the electricity is out of in the network, facility shall take over units and supply electricity to substation with the load steps of the units. The load management and the protections are MOE's responsibility. [The grid synchronisation with necessary protections over facility is MOE's responsibility] MOE.

14.3. Voltage and Frequency Ranges

Facility voltage specification will be the bus bar voltage $\pm 5\%$, and frequency specification will be 50 Hz $\pm 2\%$, -1% . operating parameters subject to MOE's approval.

ARTICLE 15- CHANGES IN OPERATING CONDITIONS

A system failure in the grid, which may affect the operation of the Facility, and estimated duration thereof, shall be promptly notified by MOE to the Contractor by direct telecommunications between plant & sub-station.

Purchaser is responsible for supplying fuel with the attached fuel specification in Annex 2. Fuel specification should be certified for each shipment. If the fuel quality is not complying required fuel specifications and in case of bad quality interruption in supplying fuel, It shall be replaced with an acceptable fuel type.

Both side shall notify each other in case of failure or any unscheduled inspection and maintenance or other events affecting the generation capacity (type, natural probable causes, estimated duration and remaining available capacity of the unit and the works done etc. shall be covered by the information to be given and these shall be confirmed in writing subsequently.)

ARTICLE 16- DEVICES RELATED TO THE FACILITY AND GRID

The Contractor shall supply and assemble at its own cost, the system within the premises of the Facility and up to the point of connection, all communication, protection, control measurement and similar devices and systems. The Contractor shall receive the relevant technical information from MOE and purchaser.

MOE and purchaser will provide the data requested by the Contractor regarding the earthing protection, over current protection, load priority sequence and design fault level of the system. MOE will make necessary arrangements for the connection of the facility. [the approval of the single line diagram shall fix all parameters by MOE].

ARTICLE 17 -DEFINITION OF ELECTRICAL ENERGY TO BE BASED ON FOR DETERMINING SERVICE CHARGE

17.1. In calculating the price of the service provided by the Contractor within the scope hereof, only the amount of net active energy generated shall be taken into account.

17.2. The electrical energy which forms the basis for the hiring charge is the net active energy delivered into the power system & measured by the metering system from the line or lines at the outgoing terminal of the Facility.

In cases when the plant cannot make energy generation for any reason, the Facility shall be designed that the internal consumption shall be drawn from the system.

ARTICLE 18 -ELECTRICAL ENERGY DELIVERY CONCERNING POWER PLANT OPERATION AND MAINTENANCE HIRING CHARGE

The measurement point of the electrical energy to be delivered by the Contractor to purchaser and/or MOE shall be, in principle, at the HV outgoing side of the power plant's step-up transformer. Locations, types of connections and, in case of necessity, directions of the measurement groups, shall be determined & decided by the Contractor's and MOE and purchaser's authorised staff together.

ARTICLE 19- ACCEPTANCE PROTOCOL AND PUTTING THE FACILITY INTO SERVICE

Upon the successful completion of the tests that are specified by purchaser and the Contractor, a test report shall be drawn up by the test committee; thereby the acceptance shall be done by the Acceptance Committee or in case of deviation to decide the repetition of tests.

The preparation for the grid and consumers, for the tests that must be done before the Acceptance Tests, belongs to MIM, MOE and purchaser. The time period of pre-test that cannot be done due to unprepared grid and consumers, will be added to the deployment period of the plant.

An acceptance protocol shall be drawn up by the Acceptance Committee and the facility shall enter into service on the date of signing of the acceptance protocol and the Commencement Date of Hire shall have started.

ARTICLE - 20 TEST FOR THE POWER GENERATION FACILITY TO DETERMINE ITS READINESS FOR OPERATIONS

After the deployment of the facility, test shall be performed by a test committee consisting of MIM's, MOE's, purchaser's and Contractor's staff in order to ensure its commissioning on the date set forth in the Work Schedule and mutually agreed upon. This test is Capacity Utilization Test.

A achievement of electrical parameters within standards specified by MOE.

During this test, the facility shall be operated 24 (twenty four) hours without interruption. During test in the event that the facility runs out of service 2 (two) times due to causes attributable to the Contractor, or duration of such outage exceeds 6(six) hours, the Capacity Utilization Test shall be repeated from the beginning.

Decrease of facility's capacity due to causes attributable to the Contractor, below 70% of its normal level for 4 hours in the ambient conditions prevailing at the moment, shall be deemed as the Facility's outage. Contractor will bear the deviation from base load specified in contract

ARTICLE - 21 SERVICE CHARGE

As the price of services it provides within the scope of this contract, remuneration shall be made to the contractor after commissioning of the Facility, for electrical power supplied, in return for the deployment of the facility, connecting thereof to the power system, and keeping it in good operating condition.

The service charge shall be of such amount that it shall include all costs for the deployment, connection to the nearest transmission line and keeping in operation of a power plant with a capacity of 60 MW and annual active net energy generation capability, in the year for which the monthly break-down is given, of kWh, and shall be expressed in terms of USA Cent/kWh. This charge shall be fixed during the contract period.

Necessary fuel for the operation of this facility such as Fuel – Oil , diesel- Oil, with specification attached of this contract shall be given by Contractor, for operation of facility, shall be delivered by the purchaser as a free of charge, in the storage tank that shall be constructed by purchaser. Quantities & specification as per annex.

As the price of services provided by the contractor within the scope of this contract a monthly payment shall be effected by purchaser to the Contractor based on the Hire Charge in return for per kWh of the net active energy which is generated at the Power Plant according to article 17 and 18 taking into account also the values given for price and minimum base load.

DEFICIENT GENERATION

Due to causes originating from sources other than Force Majeure circumstances or MIM, MOE and/or purchaser (like breakdown, repair on energy transfer system, Insufficient security), if the net active energy amount generated within one-month operating period proves to be less than the amount guaranteed the service charge shall paid for the amount generated, and a penalty shall be applied to the contractor, multiplying the difference between the amount guaranteed and the net active energy generated thereby by the service Charge. (cent/kW h x Base load – actual load generated).

In case the contractor by MOE and/or purchaser to make deficient generation circumstances other than Force Majeure following charges shall be effected for the actual amount generated, the hire charge, and for the difference between the monthly guaranteed amount and actual amount generated the hire charge.

EXCESS GENERATION

If, in any month, the Contractor, upon the request of purchaser and /or MOE, generates in excess of the amount of net active energy in the amount guaranteed, the payment for such excessive generation shall be by applying the Hire Charge.

ARTICLE – 22 INVOICING

22.1. Invoices shall be issued on monthly basis. The meters, which will measure the amount of active energy, generated at the Facility, as well as reactive meter values, shall be read by the representatives of the parties on the day after the last day of each month (the reading data belong to the last day of the month) and a meter reading protocol, a sample of which is provided herewith, shall be drawn up at the site of such a reading on the first day of each month, the Contractor shall issue the monthly invoice of the previous month and deliver it to purchaser.

22.2. The Contractor shall, on the basis of the index fixed according to Article 17.1 issue an invoice under the title of “service Charge of Facility” and send this invoice to purchaser.

22.3. The procedures and principles for invoice preparation process as well as the documents to be attached to invoice, shall be determined through a protocol at the stage of entrusting the service to the Contractor.

ARTICLE – 23 PAYMENTS

23.1. The Contractor shall prepare the invoice at the first day of the next month for the related month in terms of USD Dollars, and will deliver to purchaser.

23.2. After delivery of invoice, purchaser, shall pay the invoice cost with in 2 (two) weeks period. If the payment date does not coincide with a working day, the payment shall be made on the first working day that follows.

23.3. In event that the payment is not made in full within 2 (two) weeks period weekly interest rate shall be applied to the unpaid parts of such payments starting from the due payment date. In the event that this payment for base amount and accumulated interest is not paid within two months, all amount of the delayed payment interest and default base amounts will be collected from the performance security.

And these payments should be transferable to the other countries without any deduction taxes (except income tax as per law 20 for the year 1998 article [4]) and charges etc. additional to the normal bank transfer fees.

ARTICLE - 24 FORCE MAJEURE EVENTS AND THEIR CONSEQUENCES

Neither party to the contract shall be considered in default and be liable for any loss or damage of any nature whatsoever incurred or suffered by the other party due to omissions delays or default in performance caused by circumstances beyond its control which could not have been reasonably foreseen and provided against by an experienced contractor of employer (as the case may be) in the exercise of due diligence.

Provided always that such party shall continuously exert every reasonable effort to obviate or to minimize such failure.

However, and in all cases force majeure as aforesaid shall not be construed to include any act or circumstance which has been due or is in any way attributable to the contractor or his fault or negligence.

Either party affected by force majeure shall notify the other party of the force majeure and its nature without delay and not later than (14) fourteen days from the occurrence of force majeure. Failure to notify the other party within the said (14) days shall constitute waiver of the rights under this clause.

In case of delays in the fulfillment of obligations caused by force majeure the respective party shall be entitled to claim an extension of the time therefore and the engineer shall determine the extension of time, if any, which shall be reasonable and proper.

In force majeure continues for (6) months, then the parties will meet each other in order to discuss how to complete the works.

ARTICLE - 25 SETTLEMENT OF DISPUTES AND ARBITRATION

In the execution of this Contract, for the settlement of the disputes that may arise between purchaser, MOE and/or MIM and Contractor, final settlement shall be by arbitration under the rules of conciliation and arbitration of the International Chamber of Commerce. The venue of arbitration shall be in Switzerland.

ARTICLE - 26 TERMINATION OF CONTRACT

If the Contractor, after written notification thereto of the defaults identified during the inspections made by purchaser, fails to take the measures stated in such notification within 30 (thirty) days or in case of its non-performance with the provisions of the Contract, or its laying down of work, purchaser is entitled to unilaterally terminate the contract without needing any other legal decision, warning or protesting.

In the case of the purchaser is not performing the contractual obligations and/or to fall default on payments two times consequently, contractor has right to terminate the contract without needing any other legal action after giving a (30) days notice in writing to purchaser to overcome specified items not fulfilled.

Both sides may terminate the contract with mutual agreement if they can not fulfill the corresponding contract obligations.

In case of termination of Contract, Contractor will get back all equipments and can send out of Country.

ARTICLE – 27 CONFIDENTIALITY

Each party agrees that it shall maintain as confidential and secret all information documents or know-how entrusted to itself by the other party, ensure that their employees, officials and that it shall not disclose them for utilization by the third parties without prior written consent of the other party undersigning the Contract.

ARTICLE – 28 WAIWER

Neither party shall be deemed to have waived any of its rights hereunder unless a written waiver, signed by authorized officials of the waving party, delivered to the other party. Any omission or delay of either party in performing its obligation or rights hereunder shall not be deemed an implicit recognition of waiver.

ARTICLE – 29 NOTICES

All notices of both sides shall be given in writing and also answered in writing.

ARTICLE – 30 ADDITIONAL PROTOCOL

Parties may draw up Additional protocols on issues, that are not included herein, but mutually agreed upon, in such a manner that it shall not be substantially contrary to the essence of this Contract. Provisions of the protocol thus drawn up, shall become effective after the approval thereof by the authorities of the parties, and shall be deemed to from an inseparable and supplementary part of Contract.

ARTICLE – 31 Law applicable to the Contract.

The contract shall be and be deemed to be an Iraqi contract and shall be governed by and construed according to the material law in force in Iraq at the time of signature of this contract.

ARTICLE – 32 Compliance with Statutes Regulations etc.

The contractor shall, in all matters arising in the performance of the contract conform in all respects with the provisions of the Iraqi laws, regulations, ordinances and/or by-laws of any local or other duly constituted authorities and which shall be applicable to the works including contractor's equipment and shall keep the employer indemnified against all penalties and liability of every kind for breach of any such statute, ordinance or law regulation or by-Law.

ARTICLE – 33 EFFECTIVENESS OF CONTRACT

This agreement, upon the submission of the Performance Security to Contractor, signed in one copy on the date of/....../200. and shall become effective. The followings shall be attached to the Contract.

Annex 1 Form of the Performance Security

Annex 2 Fuel Specifications

Annex 3 Metering

Annex 4 Single line diagram

Annex 5 layout

Annex 6 test run parameters

ANNEX 3.**1. MEASUREMENT PRINCIPLES**

The measurement principles for the electrical energy generated at energy generation facilities of purchaser are as follows:

1.1. Technical criteria and other rules to be complied with, for all the meters, are given in the annex hereto.

1.2. Measurement groups namely metering devices and measuring transformer cores shall be at the feeding circuits.

1.3. Measurement of active and reactive energy shall be established exclusively for service purpose.

2. READING OF METERING DEVICES

The meters shall be read by the representative of the parties at 10 (ten) o'clock on the day after the last day of each month (the reading data belong to the last day of the month), and a meter-reading protocol, a sample of which is provided in the annex hereto, shall be drawn up at the site of such reading. (The form of the meter-reading protocol table shall be finalised during Contract negotiations according to the type of the meter selected.)

3. INSPECTION AND TESTING

1 (one) month prior to the Contractor's actual commencement of work (commencement date of hire); and thereafter at one-year intervals periodically, provided that a notice is issued by purchaser to the Contractor at least two weeks in advance, accuracy and sensitivity of the measurement system shall be inspected and tested by the two parties' representatives together.

3.1. If at times, other than test dates, either party claims upon inspection, that meters are functioning incorrectly, the contesting party, may request that such meters be tested in the presence of the representatives of both parties. In such a case, the meters shall be tested on a pre-notified and mutually agreed date in compliance with the procedures specified above. If any fault is detected beyond the acceptable tolerances, it is temporarily replaced with an equivalent meter and the dismantled meter is installed in its place only after its calibration on the meter calibration desks. The amount of energy thus incorrectly measured is calculated as specified in Article 18.4 and this situation is established with a protocol.

3.2. If either party claims that the said metering system functions incorrectly, as set in Article 18.3.1. but upon testing, it proves accurate, then the testing expenses are borne by the contesting party.

3.3. In the event that an agreement as to whether or not the metering system functions correctly, cannot be reached as a result of either inspection or testing, the case is caused to be examined by the nearest technical university, competent therefore.

3.4. In the event that one of the parties objects to the result of such an examination, disagreement is resolved according to Article 24.

4. RETROACTIVE ADJUSTMENT

If main meter is found with a broken seal, or if it fails to register, or the measurement made by the meter is found to be inaccurate, the correct amount of the energy within the period of such incorrect measurements, is determined jointly by calculation, taking into account operating hours, loads and relevant historical data.

IPP Agreement.

objects: to supply electric power upto a total of 330 megawatts to nine plants to allow the

capacity utilization.

main in cement & in fertilizers.

corporation

companies.

Harcourt over seas Ltd. (British co.)

AKS A / Turkish co.

Energy Urem AS. / Turkish co.

ASA / Turkish co.

ENERJI / Turkish co.

YAPA / Turkish co.

MAHENDISLIK - INSAAT VE DIS TICARET LTD.

AC Qaem phosphate fertilizers + cement plant.

Kubara cement plant 43 MW.

Bakosh cement plant 55 MW.

Sinjar cement plant 35 MW.

Kirkuk 11 MW

39 MW Kirk

60 Al Dam
Bunah 53
Kubara 43
Kirkuk 35
Sungur 35

South East 35
Motham 35

- Kufa Cement plant 34 MW,
- Kabbala Cement plant 35 MW
- Muthana Cement plant 25 MW
- Kirikuk Cement plant 11 MW

the total power of 330 MW will be ^{full} used for the operation of plants utilized

& excess power will be given

by MOG to service electric

power to remote areas in the country.

to be

the result of the operation of the mine site will give ~~the~~ Revenue more than 300 million U.S. \$ / year & provide Chemical materials for the reconstruction of Iraq & for agriculture.

Electricity for Industry

OLD / now use

No.	Name	Location	Minimum Requirements	Full Requirements	Own Generator	Status
1	Northern State Co. for Cement	Mousil / Anbar	45 MW	105 MW		30 MW
✓		Badoosh	15 MW	50 MW		15 MW
✓		Hammam Alil	5 MW	15 MW		5 MW
✓		Sinjar	20 MW	35 MW		5 MW
✓		Sabonjh / Badoosh	5 MW	5 MW		5 MW
2	Iraqi State Co. for Cement					
✓		Kubaisa / Anbar	20 MW	43 MW		
✓		Kirkuk / Tameem	20 MW	34 MW		20 MW
✓		Qaem / Anbar	15 MW	22.5 MW		5 MW
✓		Falaja L Anbar	5 MW	7.5 MW		1 MW
3	Southern State Co. for Cement	Patujah				
✓		Old Kufa	5 MW	5 MW		
		New Kufa	15 MW	29 MW		
		Karbala	20 MW	34 MW		7 MW
		Karbala / Lime	2 Mw	4 MW		
		Muthana / Samawa	20 MW	34 MW		1 MW
		South Plant / Samawa	10 MW	15 MW		
		Um Qasr	5 MW	5 MW		milky
		Sadat Al- Hindia / Babil	5 MW	7 MW		1 MW
4	Southern State Co. for Fertilizer Industry	Basra / Khor Al-Zubair	15 MW	25 MW		
5	Northern State Co. for Fertilizer Industry	Baiji / Salah Alidin	7 MW	10 MW		
6	State Co. for Phosphate	Qaem / Anbar	25 MW	25 MW	2 x 14 MW	Own Generators Req. Rehab.
7	State Co. for Petrochemical Industries	Basra / Khor Al-Zubair	25 MW	25 MW	4 x 17 MW	One Gas Turbine operating, other three require overhaul.

- CPA-S wants to fix:
1. While fixing, new generators to use
 2. Borrowing loans from MoE.

OPTIONS
Mark had

1. Refurbish
2. 82d promised 2 units: 2x14 (2 months)
3. IPP:
4. National Grid

(3) GE (very old)

Primo
Secundo
Tercio

~~Plasma~~: Now: $\frac{1}{2} - \frac{3}{4}$ and 2 1st Q
 Chromat: slowly for 1m

14 m. 12 tons capacity a year (approx. 1000 tons)

Category	Value
Stem cut	5 K
Warmer	5 K
Prag	5 K
over + above \$	5 K
already spent	5 K

W 51

Cement

Repair Part 1
Spare 1

(carpenter to get gear)
↓
use things in
(new cap)

2.5 ml 1% isobut (for 6 million)

Plasenta / 2 van + 10 m

Andover

MS/ Warts West boiler / Leam

Teacher + community

5/ want heat pump / Reliab

$$27m = \overline{\text{Verne 1 Jahr Betrag}}$$

PH
of 3.04

Pre-1950

Pre work
product
change
2003

40-07

No.	Name	Location	Minimum Requirements	Full Requirements	Own Generator	Status
8	State Co. for Iron & Steel Industry	Basra / Khor Al-zubair				Damaged, require rehabilitation
	a) Sponge Lion	Basra / Khor Al-zubair	5 MW	10 MW		
	b) Iron and Steel	Basra / Khor Al-zubair	50 MW	190 MW	2.5 MVA	
	Pipe Planr	Um-Qassr	2 MW	2 MW	2 MVA	
9	State Co. for Paper Industries					
	a) Basra Plant	Bsra	4 MW	8 MW		
	b) Ilmara Plant	Missan	4 MW	8 MW	2 x 4 MW	
	c) Baghdad Plant	Baghdd / Tsji	1 MW	1 MW		
10	State Co. for Sugar Industries					
	a) Mosul Plant	Mosul	4 Mw	4 MW	4 MW	
	b) Ilmara Plant	Missan	4 MW	4 MW		
	c) Yeast Plant	Mosul	1.5 MW	1.5 MW		1.5 MW
11	State Co. for Glass & Ceramics Industries	Ramadi / Anbar				
	a) Glass Plant	Ramadi / Anbar	4 MW	8 MW	2 x 4 MW	4
	b) Ceramic Plant	Ramadi / Anbar	2 MW	2 MW	Not Operating	
	c)	Ramadi / Anbar	2 MW	2 MW	Not Operating	
12	Retroctories	Faluja / Anbar	2 MW	2 MW		1 Mw
13	State Co. for Indust Design & Construction					
	Plastic Pipe Plant	Baghdad	2 MW	2 MW		
	Plastic Pipe Plant	Ilmara / Missan	2 MW	2 MW	1 MW	
	Baghdad Brick Plant	Baghdad	2 MW	2 MW	1 MW	
	Abunwas Plant	Baghdad	2 MW	2 MW	1 MW	2 MW
	Mahawheel Plant	Babil	2 MW	2 MW	1 MW	2 MW
	Qadisia Plant	Diwania	2 MW	2 MW	1 MW	1 MW
	Swaera Plant	Kut	2 MW	2 MW	1 MW	
	Concrte Poles	Mosul	0.75 MW	0.75 MW		
	Concrte Poles	Baghdad	0.75 MW	0.75 MW	0.5 MW	
	Marble Plant	Baghdad	1 MW	1 MW	0.5 MW	
	Nibail Quarry	Baghdad	1 MW	1 MW	0.75 MW	
	Karbala	Karbala	1 MW	1 MW	0.75 MW	

No.	Name	Location	Minimum Requirements	Full Requirements	Own Generator	Status
14	State Co. for Mechanical Industries	Iskandaria / Hilla				
	a) Foundary		4 MW	10 MW		
	b) and Mechanical Shop		2 MW	6 MW		
15	Nasser State Co. for Mechanical Industries	Baghdad / Taji				2 MW
	a) Foundary	Baghdad / Taji	6 MW	22 MW		
	b) Tool Plant	Baghdad / Taji	1.5 MW	3 MW		
	c) Steel Structures	Baghdad / Taji	1.5 MW	3 MW		
	d) Utilities	Baghdad / Taji	2 MW	2 MW	0.85	
16	Al-Sumood Industrial Co.	Baghdad / Taji				
	a) Heavy Casting Foundary		12 MW	26 Mw		
	b) Continuos Casting and Melt Shop		20 MW	40 MW		
	c) Heavy Forging Plant		4 MW	8 MW		
	d) Closed Dd. Forging Plant		2 MW	6 MW		
	e) Galvanised Shop		1 MW	1 MW		
	f) Steel Structures Plant		1 MW	1 MW		
	g) Overhead Crans Plants		1 MW	1 MW		
17	Al-Faris State Co.	Baghd / Kharthiy	2 MW	3 MW	1 MW	1 MW
18	Al Nasr Al Adheem State Company	Baghdad / Dura	3 MW	10 MW		3 MW
19	State Company for Electrical Industries					
	a) Taji Bulb Plant	Baghdad	1.5 MW	1.5 MW		
	b) Wasiria PInt (14)	Baghdad	2 MW	8 MW		
20	Al Qadisya Co. for Electrical Industries	Diyala	5 MW	10 MW		
	a) Distribution Transformars	Diyala		2 MW	2 X 0.5 MW	3 MW
	b) Power Transformars	Diyala		2 MW		
	c) Ceiling Funs Plant	Diyala		2 MW		
	d) Electric Meters	Diyala		1 MW		
	e) Steam Iron	Diyala		1 MW		
	f) Fiber Optic Plant	Diyala		1 MW		
	g) Argon PlantOverhead Crans Plants			1 MW		
21	Ure State Co. for Engineering Industry	Nassiria / Theqar		4 MW		
	a) Aluminium Plant		3 MW	8 MW		
	b) Cables Plant		3 MW	8 MW		

No.	Name	Location	Minimum Requirements	Full Requirements	Own Generator	Status
22	State Company for Car Manufacturing	Iskandaria / Babil	2 MW	3 MW		2 MW
	a) Main Plant		1 MW	2 MW		
	b) Engine Plant		1 MW	1 MW		
	c) Baghdad Centre					
23	The Nissan 17 April State Company		Baghdad			State Company for Woolen Industries
	a) Emblem Plant		Baghdad	1 MW		
	b) Aqluminium Plant		Baghdad	1 MW		
	c) Precision Foundary		Baghdad	2 MW		
	d) Road signs Plant		Baghdad	1 MW		
24	State Company for Woolen Industries	Baghdad				State Company for Woolen Industries
	a) Taji Plant	Baghdad / Taji	1.5 Mw	1.5 mw		1.5 MW
	b) Carpets	Baghdad / Taji	2 MW	2 MW	2 MW	2 MW
	c) Nassiria Plant	Nassiria		3 MW		
25	State Company for Cotton Industries					
	A) Medical Cotton	Baghdad	1 MW	1.5 MW	2 X 0.5 MW	1.5 MW
	b) Baghdad Plant	Baghdad	2 MW	3 MW	1 MW	
	c) Musol Plant	Musol	2 MW	3.5 MW	1 MW	
	d) Diwania Plant	Diwania	2 MW	2 MW		1 MW
	e) Kirkuk Plant	Kirkuk	2 MW	2 MW		1 MW
26	State Company for Textile Industries - Hilla	Hilla / Babil	3 MW	4 MW	1 MW	2 MW
27	Wasit Company for Textile Industries	Hilla / Babil	3.5 MW	6 MW	1 MW	2 MW
28	State Co. for Tires & Rubber - Najaf					
	a) Main Plant	Najaf	3 MW	7.5 MW	1 MW	
	b) Rubber Hoses Plant	Najaf	1 MW	1 MW	0.5 MW	
	c) Rubber Belts Plant	Najaf	1 MW	1 MW	0.5 MW	
29	State Co. for Tires & Rubber - Diwaniya	Diwania	3.5 MW	7.5 MW	1 MW	
30	State Co. for Ready Made Wear Industries					
	a) Musol Plant	Musol	2 MW	0.5 MW	1 MW	
	b) Baghdad Plant	Baghdad	1 MW	1 MW	1 MW	
	c) Anna Plant	Anna	0.5 MW	0.5 MW		
	d) Najaf Plant	Najaf	2 MW			Damaged

No.	Name	Location	Minimum Requirements	Full Requirements	Own Generator	Status
31	Al Furat State Company	Hilla / Babil				
	a) Main Plaqnt	Hilla / Babil	5 MW	5 MW	0.5 MW	5 MW
	b) Starch Plant	Hilla / Babil	0.5 MW	1 MW	0.5 MW	0.5 MW
32	State Co. for Leather Industries					
	a) Main Works	Baghdad	1 MW	1 MW	1 MW	
	b) Leather Treatment	Baghdad	2 MW	2 MW		
	c) Najaf Plant	Najaf	0.5 MW	1 MW	0.5 MW	
33	State Co. for Battery Manufacturing					
	a) Wasiria Plant	Baghdad	2 MW	2 MW	1 MW	1 MW
	b) Khan Thary Plant	Baghdad	1.5 MW	1.5 MW	0.5 MW	0.5 MW
	c) Taji Dry Cell Plant	Baghdad	1.6 MW	1.5 MW		1 MW
34	The General Co. for Vegetable Oils					
	a) Amin Plaqnt	Baghdad		2 MW	1 MW	
	b) Mamoon Plant	Baghdad		2 MW		
	c) Rasheed Plant	Baghdad		2 MW		
	d) Ilmare Plant	Missan		2 MW		
	e) Baiji Plant	Salh Alldin		2 MW		
35	State Co. for Dairy Products					
	a) Baghdad Plant			2 MW	2 MW	1 MW
	b) Diwania Plasnt			1 MW		
	c) Musol Plant			1 MW		
36	Al Sawari State Co. for Chemical Industries					
	a) Ink Plant	Baghdad	1 MW	1 MW		
	b) Rockwool Plant	Baghdad	1 MW	1.5 MW		
	c) Resins Plant	Baghdad / Taji	1 MW	2.5 MW	0.5 MW	
	d) GRP & Fiber Glagss PlantIlmare Plant	Baghdad / Taji				
	e) That Al Sawari Plant	Baghdad / Taji	2 MW	2 MW	2 MW	
37	Al Mishraq Sulfur Industry Co.	Musol	2 MW		1 MW	Damaged
38	Drugs & Medical Supplies-Samarra	Musol	3 MW	5 MW		3 MW
39	Drugs & Medical Supplies-Ninawa	Musol	3 MW	4 MW		3 MW

CONTRACT
FOR HIRING OF POWER PLANTS
AND THEIR OPERATION
THROUGH PURCHASE OF SERVICE

CONTRACT FOR HIRING OF POWER PLANTS AND THEIR OPERATION THROUGH PURCHASE OF SERVICE

ARTICLE 1- PURPOSE

The object of this contract is to sell electric power from power plant with total capacity of 34 MW, in Kufa region, according to the terms and conditions hereof, the contractor shall install, operate and maintain it to supply the generated electric power to Purchaser.

ARTICLE 2- SCOPE

The scope of this Contract consists of the geographical location of the power plant subject to hiring in the Kufa region and the principles regarding its hiring by Purchaser, and operation by the Contractor by way of generation and sale of the generated electricity, delivered or made available by the Contractor at the power plant to the Purchaser according to the provisions of this Contract.

ARTICLE 3- DEFINITIONS

3.1. MIM

It means the Iraqi Ministry of Industry and Mineral.

3.2. MOE

It means the Iraqi Ministry of Electricity.

3.3. PURCHASER

Southern Cement State Company, Kufa Factory

3.4. CONTRACTOR

It means the firm YAPA MUHENDISLIK - INSAAT VE DIS TICARET LTD. STI who shall operate the power plant in order to generate electricity and sell the generated electricity to Purchaser and MOE and accepts and undertakes the services specified herein.

3.5. PARTIES

One of the party of this Agreement is Southern Cement State Company, Kufa Factory together with MOE which will, hereinafter, be referred to as Purchaser and the other party is YAPA MUHENDISLIK - INSAAT VE DIS TICARET LTD. STI which shall be referred to as Contractor.

3.6. AUTHORISED REPRESENTATIVE

The Contractor will assign the person (or the persons) who is (or are) authorized to represent the contractor within 15 (fifteen) days at the latest after this Agreement takes effect to carry out the works within the scope of this Agreement and be in charge thereof towards Purchaser (the Contractor shall notify Purchaser of the name and title as well as the address of the representative he designated this purpose.)

3.8. DEPLOYMENT

Construction of power plant at Kufa region means, construction of the plant and connecting it to the substation, and erection of the equipment in such a way that they will be ready for operation.

3.9. GRID (SYSTEM)

It is the national electric power generation and transmission (interconnected system) system operated by MOE.

3.10. PROJECT APPROVAL

Contractor shall present within 10 days from the signature of the contract the following documents for approval. MIM, MOE & Purchaser shall give their approval or comments & return to contractor within 15 days from day of receipt

- Single line diagrams of the system and method of connection to substation.
- General location layout and the deployment area of the power plant.
- Technical documentation related to contractors equipment for the power generation plant and technical parameters of power generation plant in case of delay in approval by MIM, MOE & Purchaser the time schedule shall be extended accordingly in case of delay by contractor in presenting the documents or completing the information the additional time shall not affect the commencement date of power supply.

3.11. COMMENCEMENT DATE OF WORK

The Commencement date of work is 15 days after the signature of the contract with the following being completed:

- The handing over of deployment area for the power plant by Purchaser as per approved layout and single line diagram. Any delays of the deployment area the deployment time shall be extended by additional time.
- The exchange & handing over of mutual performance securities which shall be presented by both sides. Any delay for the handing over the performance security that the Purchaser has to give to the Contractor, the deployment time shall be extended by additional time equal to the delay period. In case of delay by Contractor in presenting the performance security to the Purchaser, additional time shall not affect the commencement date of power supply.

3.12. COMMENCEMENT DATE OF HIRE

It is the date on which, the acceptance protocol is, upon successful completion of the acceptance tests at the facilities, signed by the Acceptance Committee formed in compliance with the Contract, and the facility is put into service and power is supplied accordingly.

3.13. ACTUAL EFFECTIVE SERVICE PERIOD

It is the time period, after the Commencement Date of power supply & continues for 60 (sixty) months.

3.14. CAPACITY OF THE FACILITY

It is capacity level of 34 MW of the Facility which is determined with respect to the maximum constantly produceable capacity level at the Facility, on the basis of minimum heat value of the fuel without performing any maintenance work other than that previously defined by normal maintenance procedures and also without the necessity of special measures and special operator attention.

3.15. MEASUREMENT GROUPS

The measurement system at the Facility for the measurement of the net kWh delivered to the system, consisting of meters, current and voltage transformers feeding thereto and the secondary circuits.

3.16. MEASUREMENT POINT

The location of connections of current and voltage transformers, feeding the meters of measurement groups on which kWhs delivered to the systems are measured.

3.17. kWhs DELIVERED TO THE SYSTEM

The net amount of electrical energy generated at the Facility and measured at the Measurement Points and sold to the Purchaser.

3.18 REGIONAL LOAD DISPATCH CENTER

It is Load Dispatch Center in the region where the facility is located and to which the Contractor will contact for the execution of service and a telecommunication system shall be installed between power plant and substation by the Contractor.

3.19. MOE AUTHORISED PERSONEL

The officials of the related MOE in the location where the Facility deployed therein, is situated.

3.20. UNIT

Each generation unit, which comprises the Facility and connected via contractors' busbar to the system as per MOE's approval.

3.21. MONTHLY PERFORMANCE VALUES

It means the monthly net electric power generation, which is based on the capacity of facility (34 MW) multiplied by monthly operating period guaranteed by the Contractor (minimum base load is 22.666.667 kWh/month) for each month during service period. A monthly program shall be agreed upon as per Article 13.2 between two parties.

3.22. FACILITY

It means the power plant consisting of power generation units, automatic control system of power plant, switchgear between the power plant and substation, fuel treatment units and its associated equipment which will be deployed by the Contractor at Kufa Region. Fuel storage tanks, water supply will be provided by Purchaser.

3.23. ACCEPTANCE COMMITTEE

The Acceptance Committee will be formed by Purchaser, MOE and MiM for the acceptance of the facility.

3.24. Monthly payment for electric power

not utilized

It means the monthly net payments (in USA Cent/kWh) to be made by Purchaser per kWh net active energy which is generated and received and is measured by the metering system in such plant multiplied by the unit price of 3.40 USA cent / kWh in return for the services of contractor placing the power plant with a capacity of 34 MW in Kufa region, in such a manner as to satisfy the performance values, keeping the plant in good operating condition and guaranteeing minimum base load for the duration of 5 (five) years of operation according to the contract terms.

And these payments should be transferable to the other countries without any deduction of taxes (except income tax) and charges ...etc. additional to the normal bank transfer fees.

3.25. EXCESS GENERATION

In the event that the total amount of monthly electricity generation is more than the monthly amount guaranteed by the Contractor, the difference between the guaranteed amount and the actually generated amount is considered excess generation and any additional power supply to Purchaser and / or MOE should be paid.

3.26. FUEL

Heavy Fuel Oil (Banker C) of which specification have been provided in Annex 2 with a quantity of 320 gr / kWh and that will be provided to Contractor free of Charge by the Purchaser.

3.27. MINIMUM PURCHASE UNDERTAKING

The minimum quantity of electricity that the Purchaser are obligated to purchase from the Contractor in one month pursuant to this Contract, which is 22,666,667 kwh / month.

Contracted
3.24

ARTICLE 4- PRINCIPLES

Provide electric energy continuously all through the 24 hours of a day/month/year and service continuity are the essential requirements for the services to be provided in the Facility defined in this Contract. The Contractor shall make maximum efforts and sacrifice in respect of the services he will render in order to achieve highest level of benefits and efficiency.

ARTICLE 5- CONTRACT LANGUAGE

This Contract and its annexes and all forms shall be prepared in English and written Communications and discussions to be held between the parties shall be made in English and this English text shall be accepted as the binding document.

ARTICLE 6- TERM OF CONTRACT

The term of the Contract is 64.5 (sixty four point five) months from the Commencement Date of Works. Of this duration, 4.5 (four point five) months' are for the deployment of the plant, connection to the factory substation by the Contractor according to the provisions of this contract, and hence the actual effective service period is 60 (sixty) months. If the Contractor complete the deployment period before 4.5 months this period will be added to the 60 months actual effective service period. During this period, the Contractor shall take all possible measures to execute the work as contemplated.

The Contract can be extended, subject to mutual agreement with the mutually agreed terms, if the contract will not be extended the Contractor has right to disassemble all engines and related equipments and send out of the country .

ARTICLE 7- PERFORMANCE SECURITY

The Contractor shall give to Purchaser a bank guarantee amounting 3 (three) % of the minimum annual base load price in USA \$, as Performance Security with 12 (twelve) months validity. The Bid Security presented by the Contractor shall be returned with the presentation of this Performance security of Contractor. This performance security of Contractor shall be returned to the contractor at the end of the validity date.

Purchaser shall give to Contractor a Performance security with the amount of 3.082.666 USA Dollars (Say three million eighty two thousand six hundred sixty six US Dollars only) , (which is the multiplication of base load kWh with plant power and price for four months) with one year validity renewable for 5 years with the same full amount in the form in Annex 1.

The performance security to be given by Purchaser must be given from Trade Bank of Iraq (TBI). If Purchaser could not succeed to issue a performance security from Trade Bank of Iraq (TBI) then, the performance security to be given from the Iraqi Central Bank with the endorsement of Iraqi Ministry of Finance, with the amount of 9.248.000 USA Dollars (Say nine million two hundred

forty eight thousand only), (which is the multiplication of base load kWh with plant power and price for one year) with one year validity renewable for 5 years

This Performance Security shall be released after immediately up on completion of contract period. Payment of monthly dues shall be made with in as per article 23 in case of delayed payment of monthly charges the contractor will receive the payment in cement at for international prices. The alternative to be considered shall be decided within 15 days after date of signing the contract.

ARTICLE 8- INSURANCE AND SECURITY

Issuance of insurance against all sorts of risks related with the subject work and facility of the Contract, and all necessary procedures and expenses related to the said insurance shall be under the liability of the Contractor.

During the period of transportation, installation and operation it is the liability of Contractor to protect the equipment however Purchaser shall render assistance with their authorities MIM, to help providing the necessary protections.

All kinds of help and support will be given to the Contractor about issuance of insurance against transportation, fire, breakdown and sabotage and providing security.

ARTICLE 9- TAXES and DUTIES

The exemption from all taxes, duties, custom duties, charges, fund, VAT, and contract contributions, and all other similar expenses, which may result from the signing of this contract, shall be covered by Law 20 of 1998 & the order of the coalition provisional authority no. (39) of 19/9/2003 concerning the foreign investment in Iraq.

The exemption from the income taxes up to 30% only as per law 20 of 1998 article 4.

All necessary permission for import and export of equipments, parts and consumables, temporary importation of the equipment and the construction equipment, and all work permissions of the construction and operation personal shall be provided by MIM.

The Contractor shall be free to transfer their income and all profit except income tax from this contract to outside of the country.

ARTICLE 10- COMMENCEMENT DATE OF HIRE AND DELAY OF WORK

The date of signature of the acceptance protocol by the acceptance committee after completion of performance tests on power generation plant shall be the commencement date of hire & the month after this date shall be taken as a basis for the commencement of monthly payments for actual electric power supplied by contractor.

During the deployment time Contractor will construct the plant and connect it to the Grid and will make the plant ready for testing and operation. Purchaser, MIM and MOE will provide the necessary permissions and lodging for operating staff only and, for the purposes of electricity generation, provide the fuel tanks, fuel (320 gr / kWh), water (30 m3 / hr) free of charge which is sufficient for generating electricity at least for consecutive 15 [fifteen] days and quality as per attached specifications

The date of commencement of hire shall not exceed 4.5 months started when the contract coming in force in case of delays the following shall be taken in to consideration:

10.1- From the Commencement Date of Work specified in the Contract, delays due to the reasons that originate from the Force Majeure events the necessary time extension will be given as per Article (24).

10.2- If any delay occurs due to the reasons originate from the Contractor, the Contractor notifies MIM in writing the reasons of the delay.

The delay penalty will be calculated by multiplying minimum base load in kWh with hire fee for the delayed period shall be applied to the Contractor. Applied total annual penalty can not be more than 7% of the yearly contract price based on the base load at the rate of 0.5% / week.

- 10.3- If facility is ready for acceptance test the contractor shall give two week notice to Purchaser of his readiness to conduct acceptance test. In case MOE, MIM and/or Purchaser is not ready to get energy, Purchaser shall pay price of energy multiplied by minimum base load in kWh bases for the time of delay to the Contractor.

ARTICLE 11- WORK SCHEDULE

The Contractor shall carry out the work within the scope of this Contract in accordance with the conditions hereof and on the dates specified in the work schedule attached. In case of emergence of any one of the conditions set forth in the article of force majeure, which adversely affects achievement of the dates in the work schedule, both sides shall meet to discuss the matter.

11.1. SYSTEM CONNECTION

The line required for the connection shall be designed by the Contractor. All related documents and information for the system in operation which will enable the Contractor to make connection to the system, will be provided by MIM, MOE and Purchaser. The single line diagram prepared by contractor shall be approved by Purchaser MOE before contract signature.

ARTICLE 12- RECORDING OF INSTRUCTIONS AND SUBMISSION OF METERING INFORMATION

The Contractor shall comply with the instructions given by MOE and Purchaser and inform the related such centre, by a letter handed over to Purchaser or other similar communication means, of the following data to be utilised by MOE for statistical or system control purposes. These are:

- Values recorded by energy meters,
- Active power and reactive power values received from and supplied to the grid and voltage values (P, Q and V)
- Other information on electric power system to be provided whenever requested by the MOE's authorised personnel and at intervals mutually agreed upon.
- Direct telephone communication between contractor & MOE substation.

ARTICLE 13- ANNUAL, MONTHLY PROGRAMS

13.1 ANNUAL PROGRAM

The Contractor guarantees the provision of annual program values in accordance with the following conditions:

- Estimated and net annual, monthly, weekly electrical energy generation amounts for each unit
- Estimated forced outage period
- Estimated commencing and terminating dates of programmed outages such as maintenance and inspection, revision
- A loading programme to be submitted by Contractor and approved by Purchaser before commencement of Power Supply.

13.2 MONTHLY PROGRAM

The Contractor may revise the monthly generation program, contemplated in the annual energy generation program prepared within the contract term according to Article 13.1. every month for the month that follows it. Monthly revised generation program shall be informed to Purchaser in writing by the Contractor by the 25th (twenty fifth) of the month that proceeds the month it is arranged for. Any revision in monthly program shall be approved by Purchaser.

ARTICLE 14- OPERATING PRINCIPLES

The Contractor is obliged to work in harmony with the system and comply with all the conditions set forth in this Contract. The total of the electrical energy generated in the Facility and the utilisation right thereof are at MOE's disposal. The Contractor shall provide services at the Facility, in such a manner that it shall generate electrical energy for 24 hours per day in line with the

operation-maintenance instructions and requirements of Purchaser and shall insure direct communication with substation.

The operation, maintenance and repair service to be provided at the power plant shall be carried out by the personnel whose qualifications and numbers are in consistent with those prescribed therein.

The Contractor shall take all the measures concerning the execution of operation and maintenance services in an effort to maintain the electrical energy generation at its highest level to cover Purchaser requirements. Acting as an efficient and economic operator and making full use of the available capacity are the main aspects for which the Contractor shall be responsible.

The Purchaser and MOE will take all the measures to get and distribute the energy produced by the facility and to protect Contractor's system from any failures which may arise from Purchaser and / or MOE System.

. The operating parameters shall be in conformity with MOE's regulation for 14.1, 14.2 & 14.3.

14.1. Power Factor

The units shall operate under excited or over excited within its $\cos\phi$ rating and limits of load capability curve, whenever needed by the system. As per MOE's specifications of power factor lagging 0.85 leading 0.95.

14.2. Synchronisation

All kinds of arrangements for entering into parallel with grid shall be installed on the facility side while the arrangements of voltage and frequency conditions will be provided by MOE, also the facility shall be design in such a manner that when the electricity is out of in the network, facility shall take over units and supply electricity to substation with the load steps of the units. The load management and the protections are MOE's responsibility. [The grid synchronisation with necessary protections over facility is MOE's responsibility] MOE.

14.3. Voltage and Frequency Ranges

Facility voltage specification will be the 33kv bus bar voltage +/- %5, and frequency specification will be 50 Hz -2%, +1%. operating parameters subject to MOE's approval. The contractor shall take all necessary precautions to avoid power fluctuations coming from the facility.

ARTICLE 15- CHANGES IN OPERATING CONDITIONS

A system failure in the grid, which may affect the operation of the Facility, and estimated duration thereof, shall be promptly notified by MOE to the Contractor by direct telecommunications between plant & sub-station.

Purchaser is responsible for supplying fuel free of charge mentioned in Article 3.26 in case of exceeding fuel consumption rate by the contractor the additional amount shall be paid at current local prices with the attached fuel specification in Annex 2. Fuel specification should be certified for each shipment. If the fuel quality is not complying required fuel specifications and in case of bad quality interruption in supplying fuel, It shall be replaced with an acceptable fuel type .

Both side shall notify each other in case of failure or any unscheduled inspection and maintenance or other events affecting the generation capacity (type, natural probable causes, estimated duration and remaining available capacity of the unit and the works done etc. shall be covered by the information to be given and these shall be confirmed in writing subsequently.)

ARTICLE 16- DEVICES RELATED TO THE FACILITY AND GRID

The Contractor shall supply and assemble at its own cost, the system within the premises of the Facility and up to the point of connection, all communication, protection, control measurement and similar devices and systems. The Contractor shall receive the relevant technical information from MOE and Purchaser.

MOE and Purchaser will provide the data requested by the Contractor regarding the earthing protection, over current protection, load priority sequence and design fault level of the system within the period mentioned in Article 3.10. MOE will make necessary arrangements for the connection of the facility.

The approval of the single line diagram shall fix all basic parameters by MOE.

ARTICLE 17 -DEFINITION OF ELECTRICAL ENERGY TO BE BASED ON FOR DETERMINING SERVICE CHARGE

17.1. In calculating the price of the service provided by the Contractor within the scope hereof, only the amount of net active energy generated shall be taken into account.

17.2. The electrical energy which forms the basis for the hiring charge is the net active energy delivered into the power system & measured by the metering system from the line or lines at the outgoing terminal of the Facility.

In cases when the plant cannot make energy generation for any reason born from the Purchaser ;

-lack of fuel and water

-lower power consumption in the Grid and/or Cement Factory

-any breakdown in the power lines and/or equipment that are in Purchaser's and / or MOE's responsibility or any other causes similar with the above] except cases of force Majeure that may affect any of above.

the Contractor will still have the right to invoice based load times hire fee per kWh at the end of the month regardless of how much power is consumed by the Purchaser and Purchaser' will pay the amount to the Contractor corresponding to the minimum monthly purchase undertaking.

ARTICLE 18 -ELECTRICAL ENERGY DELIVERY CONCERNING POWER PLANT OPERATION AND MAINTENANCE HIRING CHARGE

The measurement point of the electrical energy to be delivered by the Contractor to Purchaser shall be, in principle, at the HV outgoing side of the power plant's step-up transformer.

Locations, types of connections and, in case of necessity, directions of the measurement groups, shall be determined & decided by the Contractor's and MOE and Purchaser' s authorised staff together.

ARTICLE 19- ACCEPTANCE PROTOCOL AND PUTTING THE FACILITY INTO SERVICE

Upon the successful completion of the tests that are specified by Purchaser and the Contractor, a test report shall be drawn up by the test committee; thereby the acceptance shall be done by the Acceptance Committee or incase of deviation to decide the repetition of tests.

The preparation for the grid and consumers, for the tests that must be done before the Acceptance Tests, belongs to MIM, MOE and Purchaser. The time period of pre-test that cannot be done due to unprepared grid and consumers, will be added to the deployment period of the plant.

An acceptance protocol shall be drawn up by the Acceptance Committee and the facility shall enter into service on the date of signing of the acceptance protocol and the Commencement Date of Hire shall have started with commencement of power supply.

ARTICLE - 20 TEST FOR THE POWER GENERATION FACILITY TO DETERMINE ITS READINESS FOR OPERATIONS

After the deployment of the facility, test shall be performed by a test committee consisting of MIM' s, MOE's , Purchaser's and Contractor' s staff in order to ensure its commissioning on the date set forth in the Work Schedule and mutually agreed upon. This test is Capacity Utilization Test.

A achievement of electrical parameters within standards specified my MOE.

During this test, the facility shall be operated 24 (twenty four) hours without interruption. During test in the event that the facility runs out of service due to causes attributable to the Contractor, the Capacity Utilization Test shall be repeated from the beginning.

ARTICLE - 21 SERVICE CHARGE

As the price of services it provides within the scope of this contract, remuneration shall be made to the contractor after commissioning of the Facility, for electrical power supplied, in return for the deployment of the facility, connecting thereof to the power system, and keeping it in good operating condition.

The service charge shall be of such amount that it shall include all costs for the deployment, connection to the nearest transmission line and keeping in operation of a power plant with a capacity of 34 MW and annual active net energy generation capability, in the year for which the monthly break-down is given, of 22,666.667 kWh, and shall be expressed in terms of USA Cent/kWh. This charge shall be fixed during the contract period.

Necessary fuel for the operation of this facility such as Fuel - Oil, with specification attached of this contract shall be given by Contractor, for operation of facility, shall be delivered by the Purchaser as a free of charge according to the quantities mentioned in Article 3.26, in the storage tank that shall be constructed by Purchaser. Quantities & specification as per annex.

As the price of services provided by the contractor within the scope of this contract a monthly payment shall be effected by Purchaser to the Contractor based on the Hire Charge in return for per kWh of the net active energy which is generated at the Power Plant according to article 17 and 18 taking into account also the values given for price and base load.

DEFICIENT GENERATION

Due to causes originating from sources other than Force Majeure circumstances or MIM, MOE and/or Purchaser (like breakdown, repair on energy transfer system), if the net active energy amount generated within one-month operating period proves to be less than the amount guaranteed the service charge shall paid for the amount generated, and a penalty shall be applied to the contractor, multiplying the difference between the amount guaranteed and the net active energy generated thereby by the service Charge. (cent/kW h x (Base load - actual load generated)).

EXCESS GENERATION

If, in any month, the Contractor, upon the request of Purchaser and /or MOE, generates in excess of the amount of net active energy in the amount guaranteed, the payment for such excessive generation shall be by applying the Hire Charge.

ARTICLE - 22 INVOICING

22.1. Invoices shall be issued on monthly basis. The meters, which will measure the amount of active energy, generated at the Facility, as well as reactive meter values, shall be read by the representatives of the parties on the day after the last day of each month (the reading data belong to the last day of the month) and a meter reading protocol, a sample of which is provided herewith, shall be drawn up at the site of such a reading on the first day of each month, the Contractor shall issue the monthly invoice of the previous month and deliver it to Purchaser.

22.2. The Contractor shall, on the basis of the index fixed according to Article 17.1 issue an invoice under the title of "service Charge of Facility" and send this invoice to Purchaser.

22.3. The procedures and principles for invoice preparation process as well as the documents to be attached to invoice, shall be determined through a protocol at the stage of entrusting the service to the Contractor.

ARTICLE - 23 PAYMENTS

23.1. The Contractor shall prepare the invoice at the first day of the next month for the related month in terms of USD Dollars, and will deliver to Purchaser.

23.2. After delivery of invoice, Purchaser, shall pay the invoice cost with in 2 (two) weeks period. If the payment date does not coincide with a working day, the payment shall be made on the first working day that follows.

23.3. In event that the payment is not made in full with in 2 (two) weeks period interest rate of Libor + 2 shall be applied to the unpaid part of such payments starting from the due payment date. In the event that this payment for base amount and accumulated interest is not paid within one month, all amount of the delayed payment interest and default base amounts will be collected from the performance security.

And these payments should be transferable to the other countries without any deduction taxes (except income tax as per law 20 for the year 1998 article [4]) and charges etc. additional to the normal bank transfer fees.

23.4. Incase of monthly payments could not be done by Purchaser within the specified time schedule, the Purchaser have the right to make the payment with cement of BS 1296 quality or equivalent instead of cash on FOT Kufa or another factory basis with the international price of cement on fob basis shall be calculated by taking the average published fob prices of Saudi Arabia, Lebanon and Turkey.

ARTICLE - 24 FORCE MAJEURE EVENTS AND THEIR CONSEQUENCES

Neither party to the contract shall be considered in default and be liable for any loss or damage of any nature whatsoever incurred or suffered by the other party due to omissions delays or default in performance caused by circumstances beyond its control which could not have been reasonably foreseen and provided against by an experienced contractor of employer (as the case may be) in the exercise of due diligence.

Provided always that such party shall continuously exert every reasonable effort to obviate or to minimize such failure.

However, and in all cases force majeure as aforesaid shall not be construed to include any act or circumstance which has been due or is in any way attributable to the contractor or his fault or negligence.

Either party affected by force majeure shall notify the other party of the force majeure and its nature without delay and not later than (14) fourteen days from the occurrence of force majeure. Failure to notify the other party within the said (14) days shall constitute waiver of the rights under this clause.

In case of delays in the fulfillment of obligations caused by force majeure the respective party shall be entitled to claim an extension of the time therefore and the engineer shall determine the extension of time, if any, which shall be reasonable and proper.

In force majeure continues for (6) months, then the parties will meet each other in order to discuss how to complete the works.

ARTICLE - 25 SETTLEMENT OF DISPUTES AND ARBITRATION

In the execution of this contract, for the settlement of the disputes that may arise between purchaser, MOE and/or MIM and contractor, final settlement shall be by arbitration under the rules of conciliation and arbitration of International Chamber of Commerce. The venue of arbitration shall be in Switzerland.

ARTICLE - 26 TERMINATION OF CONTRACT

If the Contractor, after written notification thereto of the defaults identified during the inspections made by Purchaser, fails to take the measures states in such notification with 30 (thirty) days or in case of its non-performance with the provisions of the Contract, or its laying down of work,

Purchaser is entitled to unilaterally terminate the contract without needing any other legal decision, warning or protesting.

In the case of the Purchaser is not performing the contractual obligations and/or to fall default on payments two times consecutively contractor has right to terminate the contract without needing any other legal action after giving a (30) days notice in writing to Purchaser to over come specified items not fulfilled. In this case the contractor has the right to cash the performance security given by the Purchaser to cover his unpaid monthly charges as well as his losses born from the termination of this contract.

Both sides may terminate the contract with mutual agreement if they can not fulfill the corresponding contract obligations.

In case of termination of Contract, Contractor will get back all equipments and can send out of Country without encountering any bureaucratic difficulties.

ARTICLE - 27 CONFIDENTIALITY

Each party agrees that it shall maintain as confidential and secret all information documents or know-how entrusted to itself by the other party, ensure that their employees, officials and that it shall not disclose them for utilization by the third parties without prior written consent of the other party undersigning the Contract.

ARTICLE - 28 WAIWER

Neither party shall be deemed to have waived any of its rights hereunder unless a written waiver, signed by authorized officials of the waving party, delivered to the other party. Any omission or delay of either party in performing its obligation or rights hereunder shall not be deemed an implicit recognition of waiver.

ARTICLE - 29 NOTICES

All notices of the Parties shall be given in writing and also answered in writing.
The Parties have designated the following contact details with respect to all notices to be served on themselves by other Parties:

To the Purchaser:

Iraqi Ministry of Industry and Minerals

Attention:

Address:

Telephone:

Fax:

Southern Cement State Company, Kufa Factory

Attention: Alaa Mouhammed Jawaaid - Director General

Address: Kufa Factory - Najaf / Iraq

Telephone: 964 33 372 442 (372863)

E-mail: Kufacement_mr@yahoo.com, Kufacement_com@yahoo.com, Kufacement_pl@yahoo.com

To the Contractor:

Yapa Muhendislik Insaat Ve Dis Ticaret Ltd. Sti.

Attention: Mr. Serif Ercument Aksoy

Address: Sehith Ahmet Guvenc Sk. No: 4 Dragos / Kartal, Istanbul - Turkey

Telephone: +90 216 305 1900

Fax: +90 216 305 1104

ARTICLE - 30 ADDITIONAL PROTOCOL

Parties may draw up Additional protocols on issues, that are not included herein, but mutually agreed upon, in such a manner that it shall not be substantially contrary to the essence of this Contract. Provisions of the protocol thus drawn up, shall become effective after the approval thereof by the authorities of the parties, and shall be deemed to form an inseparable and supplementary part of Contract.

ARTICLE - 31 Law applicable to the Contract.

The contract shall be and be deemed to be an Iraqi contract and shall be governed by and construed according to the material law in force in Iraq at the time of signature of this contract.

ARTICLE – 32 Compliance with Statutes Regulations etc.

The contractor shall, in all matters arising in the performance of the contract conform in all respects with the provisions of the Iraqi laws, regulations, ordinances and/or by-laws of any local or other duly constituted authorities and which shall be applicable to the works including contractor's equipment and shall keep the employer indemnified against all penalties and liability of every kind for breach of any such statute, ordinance or law regulation or by-Law.

ARTICLE – 33 EFFECTIVENESS OF CONTRACT

This Contract, shall be signed in three copies on the date of .../.../2004 as first indicated above, and shall become effective and the Parties hereto shall be bound by its conditions upon signing by all Parties provided that the Contractor and Purchaser shall submit the performance bonds to each other mentioned in Article 7 which can not exceed 15 days The followings shall be annexed hereto :

Annex 1 Form of the Performance Security
Annex 2 Fuel Specifications
Annex 3 Metering
Annex 4 Single line diagram
Annex 5 layout
Annex 6 test run parameters

IN WITNESS WHEREOF, each of the Parties has caused this Contract, consisting of 33 (thirty-three) articles and [9 (nine)] annexes, to be executed in 3 (three) counterparts by its duly authorized representatives on the date first written above.

PURCHASER:

Iraqi Ministry of Industry and Minerals

By: Faisal Murad

Title: Min Advisor

Signature: [Signature]

By: Dr. W. G. Khadder

Title: D.G. at MIN

Signature: [Signature]
31st. 01. 2004.

Southern Cement State Company, Kufa Factory

By: Muhammad Ali

Title: Technical Manager

Signature: [Signature]



CONTRACTOR:

Yapa Muhendislik Insaat Ve Dis Ticaret Ltd. Sti.

By: THAIR M. JABUR

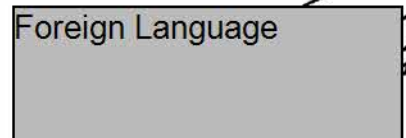
Title: Managing Director of B.O.

Signature: [Signature]
YAPA MUHENDISLIK - INSAAT VE DIS TICARET LTD. STI.

By: _____

Title: _____

Signature: _____



ANNEX 3.

1. MEASUREMENT PRINCIPLES

The measurement principles for the electrical energy generated at energy generation facilities of Purchaser are as follows:

1.1. Technical criteria and other rules to be complied with, for all the meters, are given in the annex hereto.

1.2. Measurement groups namely metering devices and measuring transformer cores shall be at the feeding circuits.

1.3. Measurement of active and reactive energy shall be established exclusively for service purpose.

2. READING OF METERING DEVICES

The meters shall be read by the representative of the parties at 10 (ten) o'clock on the day after the last day of each month (the reading data belong to the last day of the month), and a meter-reading protocol, a sample of which is provided in the annex hereto, shall be drawn up at the site of such reading. (The form of the meter-reading protocol table shall be finalised during Contract negotiations according to the type of the meter selected.)

3. INSPECTION AND TESTING

1 (one) month prior to the Contractor's actual commencement of work (commencement date of hire), and thereafter at one-year intervals periodically, provided that a notice is issued by Purchaser to the Contractor at least two weeks in advance, accuracy and sensitivity of the measurement system shall be inspected and tested by the two parties' representatives together.

3.1. If at times, other than test dates, either party claims upon inspection, that meters are functioning incorrectly, the contesting party, may request that such meters be tested in the presence of the representatives of both parties. In such a case, the meters shall be tested on a pre-notified and mutually agreed date in compliance with the procedures specified above. If any fault is detected beyond the acceptable tolerances, it is temporarily replaced with an equivalent meter and the dismantled meter is installed in its place only after its calibration on the meter calibration desks. The amount of energy thus incorrectly measured is calculated as specified in Article 18.4 and this situation is established with a protocol.

3.2. If either party claims that the said metering system functions incorrectly, as set in Article 18.3.1. but upon testing, it proves accurate, then the testing expenses are borne by the contesting party.

3.3. In the event that an agreement as to whether or not the metering system functions correctly, cannot be reached as a result of either inspection or testing, the case is caused to be examined by the nearest technical university, competent therefore.

3.4. In the event that one of the parties objects to the result of such an examination, disagreement is resolved according to Article 24.

4. RETROACTIVE ADJUSTMENT

If main meter is found with a broken seal, or if it fails to register, or the measurement made by the meter is found to be inaccurate, the correct amount of the energy within the period of such incorrect measurements, is determined jointly by calculation, taking into account operating hours, loads and relevant historical data.

Foreign Language

Letter of Guarantee No.

To: Trade Bank of Iraq, Baghdad

By order of M/s.

At our client's request we hereby, irrevocably request to issue, under our full responsibility and undertaking, your guarantee in favor of ----- as sole beneficiary of the following text guarantee to indemnify you against any damages that you may sustain up to an aggregate amount of ----- covering the delivery of electricity to the grid (as defined below) or to the purchaser against which you are entitled to payment in cash within 15 days following the end of the month in which the electricity was delivered to the purchaser or delivered to the grid.

The said guarantee is subject to the following terms and conditions:

1. The payment of any claim should be made on first presentation of your sight drafts drawn on (Issuing Bank) **and written statement of claim accompanied by invoice presented by contractor based on registered reading of the electric power in KW/h supplied by contractor to purchaser and measured by the metering system end of month and endorsed by authorized representatives of purchaser,** regardless of any contestation between the parties concerned. Such claim is deemed valid if the purchaser fails to pay for such electricity within this time period, and within an additional 30 days immediately thereafter, **as this letter of guarantee is exclusively designated to cover the relative agreement signed by parties concerned on the 31st Jan. 2004.** Your statement, making reference to this Letter of Guarantee number must be signed by one of your officials, under penalty of perjury and must read:- "The undersigned certifies the he/she is a duly authorized officer of the contractor, and that (company) ("PURCHASER") has failed, after being provided written notice (a copy of which is attached) of its failure to pay past due amounts and a period of thirty (30) days in which to effect performance, to perform its obligations to the contractor under the contract for hiring of power plants and their operation through purchase of service ("CONTRACT"), to pay for electricity delivered to the purchaser or delivered to the grid in accordance with the contract, and that payment of past due amounts has not been received".
2. This guarantee is subject to Iraqi law.
3. This guarantee is not subject to any conditions other than those that are stated below.

Let it be known that this letter of Guarantee is issued solely in your favor as beneficiary and is not assignable or transferable to any third party; likewise transfer by the principal to any other beneficiary or third party whomsoever is not permissible.

By this present Letter of Guarantee we undertake to pay to you any amount or claim not exceeding under any circumstances the above mentioned amount. This is always provided that the claim falls within the scope of the matter to be indemnified and is not

irrelevant to any matter, even if these matters result from the subject to be indemnified. Similarly no claim by other parties will be entertained, even should the subject be relevant to the contract under reference, since this guarantee is in your sole favor and subject to our receipt of your claim only in this office not later than the official working hours of the day ----- of the month -----in the year-----

As stipulated by article No. 7 of the relative agreement which is subject to this L/G, this letter of guarantee is valid for one year renewable annually for additional four years with the same amount of this letter of guarantee which is by the agreement is considered annex 1.

In any event, or for any reason, our maximum liability under this Letter of Guarantee will not exceed the sum to be indemnified shown here above.

This Letter of Guarantee sets forth in full the terms of our undertaking and such undertaking shall not in any way be modified, amended or amplified, by reference to any document, instrument or agreement referred to herein or to which this Letter of Guarantee relates, and any such reference shall not be deemed to incorporate herein by reference to any other document, instrument or agreement.

This Letter of Guarantee shall be subject to the International Letter of Guarantee Practices, under International Chamber of Commerce Publication No.-----

DRAFT

DECISION LIST - ADDITIONS TO REVISED 2004 BUDGET

No.	Title	Amount
1	Natural Gas for Electrical Generation	\$250
2	Baghdad East Oil Field	50
3	Ministry of Interior, Operating Expense	86
4	Pending Security Decisions	200
5	Trade Bank of Iraq, MoF	95
6	SOE Capital Expenditure Grants	261
7	Iraq National Debt Negotiations	50
8	Iraqi Media Network	96
9	MoE: Additional Operating Subsidy	90
10	CERP	60
11	R3P	20
12	Mol, Logistics Distribution and Ops	10
14	Ministry of Defense, Operations	10
15	Oil for Food Audit, Baghdad/Erbil	3
16	Pensions	57
	PRB Approved Items:	
20	ICDC Expansion, CJTF7	25
21	PMO/MoPDC Business Complex	18
22	Reconciliation of Iraqi External Debt	4
TOTAL		\$1,385
	ITEMS FOR DISCUSSION:	
13	MoLSA, Employment Centers	75
17	Ministry of Electricity: Maintenance Projects	120
18	Mortgage Bank	-25
19	MoLSA, Militias Reintegration	2.4
TOTAL		172.4
GRAND TOTAL		\$1,557

Foreign Language

Ministry of Industry & Minerals

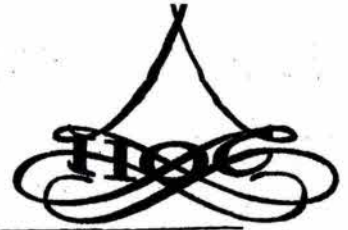
Foreign Language

IPP

(b)(6); Foreign Language

Foreign Language

Hancock Overseas Corporation



Foreign Language

Foreign Language

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**MINISTRY OF INDUSTRY AND MINERALS
BAGHDAD / IRAQ**

18.03.2004

SUBJECT : CONTRACT OF POWER PLANTS (AL – QAIM & BADOOSH PLANTS)

Dear Sirs,

Regarding our meeting in your esteemed Ministry on 15th Of March 2004 , please note that in order to get credit from the banks for such a kind of big projects , it is very important for us to receive bank guarantee before starting the job . For that reason we are sorry to mention that we can not accept any bank guarantee less than mentioned in the contract (for Badoosh) and we can not accept any bank guarantee which would be issued 6 months after the installation (For Al – Qaim)

Yours Sincerely,

Emre Sayer

Ministry of Industry & Minerals

Foreign Language

Foreign Language

To / AKSA Enerji Uretim A.S.

Sub. / Electric Power Supply

In reference to our tender of the 14th October 2003 for the supply of electric power to the nine sites specified in the tender. We hereby inform you that your proposals for the supply of electric power to the following sites have been accepted (subject to contract formulation and signature).

Ahsem Site	60 MW	@ 3,18 Cents/Kwh
Kubaisa Site	43 MW	@ 3,18 Cents/Kwh
Badoosh Site	55 MW	@ 3,18 Cents/Kwh

Kindly, present the detailed technical specifications of the power plant that you are going to provide, outlining the parameters to be guaranteed and test runs to incorporate those in the contract form.

We are looking forward to meet your authorized representative for contract formulation on the 15th December 2003.

Awaiting your confirmation.

Regards



Yours sincerely

F. D. Murad



Foreign Language

NO.	Site	Power MW	First price C/KWh	Named Co.	Second price C/KWh	Named Co.	Third price C/KWh	Named Co.	Nominated Co. for the Site
1	AlQaem phosphate	60	3.18	AKSA	3.55	GENGIZ	3.79	YAPA RASA	AKSA
2	Kubaisa	43	3.18	AKSA	3.75	RASA	4.10	GENGIZ	AKSA
3	Sinjar	35	3.19	RASA	3.47	YAPA	3.59	AKSA	RASA
4	Badoosh	55	3.18	AKSA	3.29	YAPA	3.70	RASA	AKSA
5	Muthana	35	3.19	HANCOCK	3.83	RASA	4.10	YAPA	HANCOCK
6	Karbala	35	3.22	RASA	3.81	YAPA	4.10	YAPA	RASA
7	Kufa	34	3.40	YAPA	3.79	RASA	4.29	AKSA	YAPA
8	Rubber & Textiles Diwania	11	3.19	HANCOCK	3.49	AKSA	3.85	RASA	HANCOCK
9	Southern fertilizer	25	3.19	HANCOCK	3.75	GENGIZ	3.88	YAPA	HANCOCK

From: (b)(6)
 Sent: Sunday, February 22, 2004 1:56 PM
 To: (b)(6)
 Cc: (b)(6)
 Subject: RE: Electrical Power to Industry

(b)(6)

Further to your email requesting an update of future plans in the industrial sector in the South.

The first point to make is that we see a significant interest by foreign investors for setting up factories in the South. However we will only be able to attract these investments, which are critical to reduce current high levels of unemployment, if we can provide basic utilities like stable power supply from the grid. Southern Iraq with its abundance of oil and gas, access to the outside world through ports and airport is expected to be the industrial heartland in the new Iraq. We need 3000-5000 MW in the medium terms to meet this demand.

In the short run, we have taken a couple of initiatives that will affect the demand for power in the South.

Restarting the State Fertilizer Plant/Southern Branch/ Basra Province

CPAS is in the process of launching a tender for a 22 MW power plant to provide stable power for the factory. The plant will partly use the grid and partly the generator for its power supply. It is expected that the installation of the generator at least will reduce the demand on the grid by 15 MW.

Cement Factory in Al Muthanna

CPAS has launched a tender for a 40 MW power plant that will provide the city of As Samrawa and the cement factory south of the city. With an additional investment of USD 14 m, we could get an additional 40 MW on the grid which would guarantee power both to the city and to the cement works.

State Petrochemical Company/ Basra Province

As you know the contract for refurbishing the 4x20 MW gas turbines is still stuck within the CPA system but the latest news is that it will be awarded next week. The petrochemical company needs approximately 35 MW and will be able to export the balance to the grid. Refurbishment is expected to take 4-6 months.

State Iron and Steel Company/Basra province

We are currently looking at options to restart parts of the State Iron and Steel Company if our cost/benefit analysis shows that the company is viable in a competitive free market environment. If the rolling mill is restarted, it will require an additional 35-50 MW.

In addition to these major industrial structures, we have a host of smaller SOEs that require power.

Please let me know if you need a more detailed break down.

Kind regards

(b)(6)

Trade and Industry Team Leader
 Department for Economic Planning and Development
 Coalition Provisional Authority South (CPAS)

(b)(6)

3/4/2004



04216

MIN TO
PRODUCE X
MAX (LWAR)
PRODUCTION
* STAY WASH
getty now

Priority 1 Industrial Electrical Power Loads

No.	Name	Location	Government	Maximum Operational Requirement (MW)	Full Operational Requirement (MW)	Own Generation (MW)	Demand (MW)	Load on Peak Period (1700- 2000) (MW)	Load on Peak Period (0000- 1700) (MW)
1	Northern State Co. for Cement	Mosul			105				
		Badoosh	Ninawa	15	50		20		20
		Sabon/Badoosh	Ninawa	5	5		5	20	1.5
		Hammam Ali	Ninawa	5	15		10		10
		Shir	Ninawa	20	35		17		17
Totals				45	105		52	20	48.5

2	Iraqi State Co. for Cement	Kut	Anbar	20	43		10		16
		Kirkuk	A/Tamim	20	34		20	25	17
		Qasim	Anbar	15	22.5		5		5
		Falujah	Anbar	5	11		2.5		2.5
Totals				60	106.5		37.5	25	40.5

3	Southern State Co. for Cement	Old Kut	Najaf	5	5		3.5		3.5
		New Kut	Najaf	15	29		9.5		11.5
		Karbala	Karbala	20	34		20		17
		Karbala/Lime	Karbala	2	4		4	25	2.5
		Samawa	Muthanna	20	34		10		17
		South Plant/Samawa	Muthanna	10	15		1		6
				5	5				
		Sadat Al-Hindia	Babil	5	7		3		3.5
Totals				82	133	0	50	25	61

4	Southern State Co. for Fertilizer Industry	Khor Al-Zubair	Basrah	15	25		15	15	15
---	--	----------------	--------	----	----	--	----	----	----

5	Northern State Co. for Fertilizer Industry	Baji	Salah Al Din	7	10		7	5	7
---	--	------	--------------	---	----	--	---	---	---

6	State Co. for Phosphate	Qasim	Anbar	25	2*14			1.5	5
---	-------------------------	-------	-------	----	------	--	--	-----	---

7	State Co. for Petrochemical Industries	Khor Al-Zubair	Basrah	25	25	4*17		15	15
---	--	----------------	--------	----	----	------	--	----	----

Totals 259 404.5 106.5 182

Total additional Off Peak Allocation (MW) 67

Minimum Requirement (MW)	Minimum Requirement (MW)	Minimum Requirement (MW)
10	10	10

5
3.5
5
3
-3.5

30
1.5
10
16
54.5

4
3
10
2.5
18.5

27
17
17.5
4.5
66

1.5
3.5
3
-0.5
3
4
5
1.5
21

1.5
17.5
17
1.5
17
9
5
3.5
72

0

10

0

3

20

-5

10

10

212.6

Min op req =
Load off Peak =

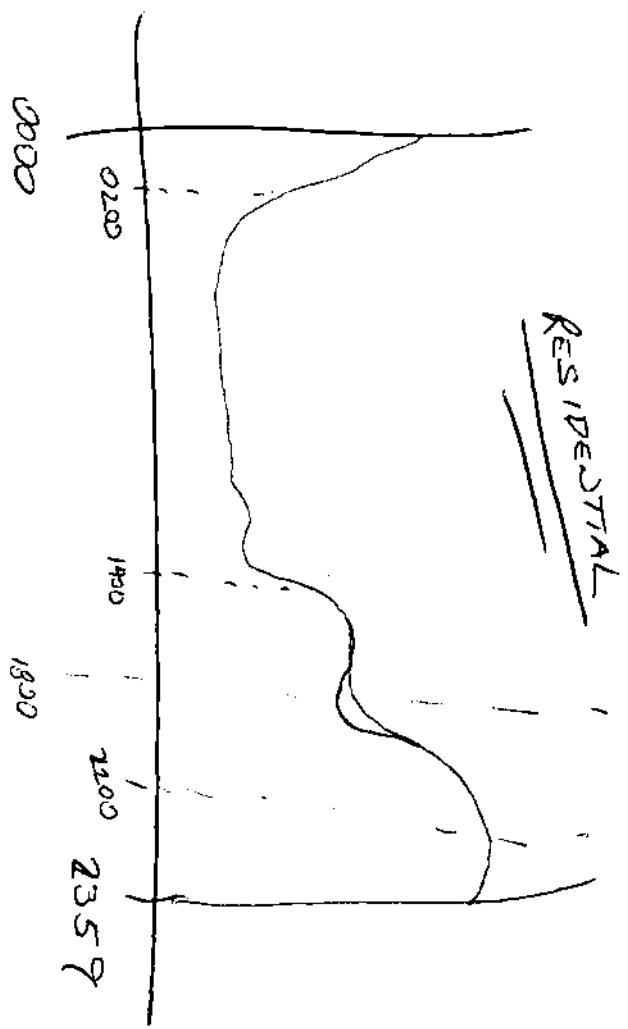
Min Necessary
off Peak Alloc.

Need to develop
"rest" plans

Take full
requirement?

Need confirm
from MIM on
* wattage

Plan OK w/ Pofig
- need to buy into
power in day
drop in evening



Dr. Faisal
Dr. Waked
FYI
Comments of

Southern Fertilizer:

Peak Demand: 25MW peak

Propose 1X GE LM6000 = 43MW

Fuel: Natural Gas only (need to re-confirm that the fuel supply is reliable)

Balance of power not used sent to the grid

GE
Frame 5's
24MW each

Al Qaem: Phosphate Fertilizer and Cement:

Peak Demand: 60MW

Propose 2X GE LM 6000 = 86MW

Fuel: Natural Gas only (need to re-confirm that the fuel supply is reliable)

Balance of power not used sent to the grid

Natural Gas not
available.

Khor Al-Zhubair: Ministry of Electricity Power Plant that supplies electricity to steel SOEs

Currently, there are 4X65MW gas turbines = 260MW 2 turbines are down

Propose: Replace 2 down turbines with 2X GE Frame 9 = 250MW giving total plant capacity of 380MW

Fuel: Bunker C

2 down turbines sent for rehab

Natural gas is available at the power plant

Rubber and Textiles:

Peak Demand: 11MW

Propose: 1XGE Frame 5 = 25MW

Fuel: Bunker C

Balance of power goes to the grid

Northern Fertilizer:

Peak Demand: 10MW

Propose 1XLM6000 = 43MW

Fuel: Natural Gas (need to re-confirm that the supply is reliable)

Balance of power goes to the grid

the gas turbines can installed in Baiji
power plant.
Natural gas not avail.

Iraqi Cement: Kubaisa/Anbar

Peak Demand: 43MW

Propose 1 X Frame 9 = 125MW

Fuel: Bunker C

Balance of power goes to the grid

no natural gas & further, Gas turbines
are not very suitable for this.

Northern Cement: Sinjar

Peak Demand: 35MW

Propose 1X GE Frame 6B = 39MW

Fuel: Bunker C

Balance of power goes to the grid

Northern Cement: Badoosh

Peak Demand: 55MW

Propose 1X Frame 9 = 125MW

Fuel: Bunker C

Balance of power goes to the grid

Southern Cement: Karbala

Peak Demand: 34MW

Propose: 1X GE Frame 6B = 39MW

Fuel: Bunker C

Balance of power goes to the grid

Now

Southern Cement: Kufa
Peak Demand: 29MW
Propose: 1X GE Frame 5 = 25MW
Unmet peak power demand drawn off of the grid

Basra Petrochemical:
Peak: 50MW
Propose: GE TM5000 Trailer Mounted genset = 24MW
Provide power while 3 of the 4 existing gas turbines on site are repaired
Once the repairs are completed, this mobile genset would be applied to other SOEs on a temporary basis. This mobile genset should not be permanently integrated into the grid

Balance of Donated Gas Turbines:
1X GE Frame 9 = 125MW
Fuel: Dual Fuel

2X GE LM6000 = 86MW total
Fuel: Natural Gas

1X GE Frame 5 = 25MW
Fuel: Dual Fuel

Remarks

- ① Dual Fuel / has to be checked as this means natural gas & diesel oil & not Heavy fuel oil. Kindly check.
- ② GE TM5000 trailer mounted, could be suitable for Southern fertilizer plant, gas available, northern fertilizer plants can be fed from Baigi power plant.
- ③ Cement plants, Kufa, Karbala (Can be fed from Najaf gas turbine power plant & hence gas turbines may be added (there is shortage of gas to replace one BBC gas turbine out of work).
- ④ methana, Sinjal, Badoosh, Kubaica & AL Qaem have not natural gas & I don't think that Heavy fuel oil is suitable for gas turbines & this should be checked.
- ⑤ the best location for new gas turbines would be where gas pipe lines are available as per attachments.

(b)(6)

From: (b)(6)
Sent: Saturday, December 06, 2003 2:11 PM
To: (b)(6)
Cc: (b)(6) Shakir Al-Zaidi
Subject: RE: gas turbine power plant costs
Importance: High

(b)(6)

Regarding the donated gas turbines...here is an initial proposal by our group to site the turbines on SOE facilities ...peak demand is shown where we envision that the gensets can load share between the SOE and the grid...the sites chosen have a dire need for power and have access to a reliable fuel source (although the natural gas supply needs more study)...the SOEs selected play a significant role in the economy and can go along way towards helping Iraq's economic recovery

Are you available tonight to discuss

Thanks

(b)(6)

-----Original Message-----

From: (b)(6)
Sent: Wednesday, December 03, 2003 3:59 PM
To: (b)(6)
Subject: RE: gas turbine power plant costs

(b)(6)

The rule of thumb is that a gas turbine costs roughly \$1 MM. The best numbers that I have heard from Iraqi electrical and industrial workers is that one of the manufacturers out of China was providing them at prices well under \$500,000. The 50 MW gas turbine plant would be significantly less. I will have a better cost for you by tomorrow, but for now, I would estimate that it is about half of what you have listed there. Note that gas turbine plants of that size are sold as a package deal...in other words, the entire plant is covered in the deal. It is not broken up by system. However, when you purchase such a system, there will be some additional capital costs. These costs include the pad/foundation, transformers, connections...As far as the construction time is concerned, it can be done in as little as six months, or it could be a lot longer. I am certain that you are aware of all of the logistical problems in this country. If you are thinking of something like this, because you do not like the PPA, I agree. I have worked up the total cost for everything, based on the 3.5 c/kWh. In under 5 years, you will have paid the cost of purchasing the plants. I will give you a copy of the cost analysis, as soon as I get a chance to finish typing it up. If the PPA is coming out of American dollars, I have some suggestions. Let me know when and where you would like to meet.

Take care,

(b)(6)
 Electricity and Power Specialist
 DOD - CPA

(b)(6)

Alt email: (b)(6)

one megawatt of gas turbine costs ~ 35000 us\$ / MW of installed power.

However, the rating is measured at 150 °C & this drops at 50 °C by about 30%.

12/7/2003

-----Original Message-----

From: (b)(6)
Sent: Tuesday, December 02, 2003 4:27 PM
To: (b)(6)
Cc: (b)(6)
Subject: gas turbine power plant costs

Hello (b)(6)

A quick question...in the West I think we use the ballpark estimate that each MW of a combined cycle gas turbine plant is about \$800k-\$1MM no?!

too much.

For Iraq, what is your estimate? How much is allocated to construction and balance of plant?

about 350 000 US \$ / MW at 150 15°.

In other words:

Say a new 50MW gas turbine plant in Iraq at \$1MM/ MW = \$50MM total cost of this, how much is construction and balance of plant (generators, controls, fuel treatment etc)

also, you can build a combined cycle gas turbine plant in the US in less than 18 months...would a simple cycle be about 6 months?!.....for a simple cycle gas turbine power plant in Iraq...**what do you estimate for construction time in Iraq?**

We would like to sit with you in the next day or two and discuss plans for the proposed gas turbines that will be donated from the US

On another note, any progress on the MoE looking at the Power Purchasing Agreement (PPA) for the MIM IPPs? Will they agree to a hook up and has the MIM asked for a backstop to MIM for their part of the PPA..if so, will the MoE agree?

Thanks

(b)(6)

Private Sector Development Group
Coalition Provisional Authority
(914) 822 4639

(b)(6)

<http://www.cpa-iraq.org>

12/7/2003

attachment

gon pipe line location

(a) Al Qaem phosphate $\phi 16$ " pipe storage

31 gon.

(b) Baige power plant.

(c) Najaf gas turbine plant. [corros Kupa

& Kachala.]

(d) Ikar Al Zubair gas turbine plant } base

(e) Shabba gas turbine power plant

(f) petrochemical gas turbine plant.

(g) Kut power plant.

(h) Doh power plant.

(i) Taji power plant

(j) Kirkuk power plant.

(k) Nisawa power plant.

it's not possible to an

heavy fuel oil (under up-

hour special treatment plants).

To the attention of

(b)(6)

Senior Advisor to M.M.

Dear Sir,

we under line below a table giving the possible excess electric power from the sites that has to be paid for by the ministry of electricity

Site	MW	excess Power	Base Load	Rate cent/kwh	excess GWh	Cost in US\$
Al Qaem	60	44%	88%	3.18	16.727	531919
Kubaisa	43	44%	88%	3.18	11.987	381209
Badoosh	55	44%	88%	3.18	15.333	487593
Sinjar	35	35%	88%	3.18	7.7616	246888
Karbala	35	35%	88%	3.22	7.7616	249923
Kufa	34	35%	88%	3.40	7.53984	256354
Muthana	35	35%	80%	3.19	7.056	225086
Southern fertilizer	25	20%	80%	3.19	2.880	91872

total

77.04604 (2.47 million US\$)

the total excess GWh ~ 77.0 which is equivalent to 107 MW.

the overall monthly cost 2.47 million US\$.

this does include (cost of production & maintenance) but does not include the cost of Heavy fuel oil.

includes transport

local H.T.O plugs

1950 T.D. + 7000 ID = 8450

I.D

Regards.

P. W. O. Khud

8.12.2004

Name	Location	Governorate	Minimum Capacity (MW)	Full Capacity (MW)	Cost (Million Dinars)	Estimated Life (Years)	Estimated Cost (Million Dinars)	Estimated Cost (Million Dinars)
Northern State Co. for Cement	Mosul	Ninawa	45	105			28	
	Badqosh		15	50		20		20
	Siberji/Badqosh		5	5		5		1.5
	Hammam Ali		5	15		10		10
	Sijar		20	35		17		17
	Kubaisy	Arbil	20	43		10	25	16
Iraqi State Co. for Cement	Kirkuk	Ar Ramman	20	34		20		17
	Qaem	Arbil	15	22.5		5		5
	Fuliyah	Arbil	5	7		2.5		2.5
Southern State Co. for Cement	Old Kufa	Najaf	5	5		3.5	25	3.5
	New Kufa	Najaf	15	29		8.5		11.5
	Karbala	Karbala	20	34		20		17
	Karbala/Lime	Karbala	2	4		4		2.5
	Samawa	Mathanna	20	34		10		17
	South Plant/Samawa	Mathanna	10	15		1		6
			5	5				
	Sadat Al-Hindia	Babil	5	7		3		3.5
Southern State Co. for Fertilizer Industry	Khor Al-Zubair	Basrah	15	25		15	15	15
Northern State Co. for Fertilizer Industry	Baill	Salah Al Din	7	10		7	5	7
State Co. for Phosphate	Qaem	Arbil	25	2*14			1.5	5
State Co. for Petrochemical Industries	Khor Al-Zubair	Basrah	25	25	4*17		15	15

304

509.5

192

ASKED BY
FACTORIES.

Disposition (including expenditure authorized):

Description of Program or Goods To Be Purchased – Please See Above Instructions

The \$27 Million will be used as collateral for a Stand by Letter of Credit to provide a performance guarantee for the Ministry of Industry with its Independent Power Producers

The MIM has negotiated contracts with IPP to provide power platforms to the more lucrative companies within the MIM portfolio (cement, phosphate, petrochemical) The IPP will deliver 330 MW of electricity to the company (at 3.18 cents per kilowat hour) (compared to the bilateral negotiated prices of 8 cents). This amount equates to 10% of the current grid. The IPP will own and operate the platforms.

The grid has failed to provide the electricity too get these companies – the commanding heights – the power they need to get up and running. Upon contract signature the vendors will provide delivery of electricity within 4.5 months to the nine site locations. Five of the nine companies have already signed the contracts.

Details are as follows:

<u>Company</u>	<u>Activity/Location</u>	<u>MW</u>
		3
State Phosphate/ Iraqi Cement	Al Qaim Al Qaim Cement	60
Iraqi Cement	Kubaisa Cement	43
Iraqi Cement	Kirkuck Cement	55
Northern Cement	Badosh Cement	35
Northern Cement	Sinjar Cement	34
Southern Cement	Karbarla Cement	35
Southern Cement	Muthana Cement	35
Southern Cement	Kufa Cement	25
Southern State Company for Fertilizers		11

333

CPA INSTRUCTIONS FOR SUBMITTING FUNDING REQUEST

The Program Review Board has established a folder in Outlook's Public Folders, where all documents are available for downloading. The folder currently holds an overview of the Allocation Process, Funding Request Form and Instructions and will soon contain a tracking matrix of funding requests so that you can view the status.

1. All funding requests must be submitted on a CPA Funding Request Form (PRB 01).
2. Submit an electronic version of the completed form via email to the "Program Review Board" address on the Outlook system. The electronic copy will initiate the process.
3. Deliver a signed hard copy of the completed form, along with any attachments, to the Program Review Board's mailbox located by the Executive Secretariat.
4. Please attach supporting documentation to the original, hard copy. For large contracts, please submit cost proposals and planning documents.

Program Description

The better the program description, the more quickly it will proceed through the funding process; the greater the funding request, the stronger justification required. Requests may be returned due to insufficient information, justification or lack of coordination. The request must address all aspects of the project (goods, services, etc). Your justification need not be long, however, it must address the following issues:

1. Purpose/Objective: Fully describe the problem/issues you are addressing and the objective of the program. If there is assessment data, please incorporate and attach documentation. If this request is part of a larger project or funding plan or if there has been funding spent previously on this project, please indicate.
2. Justification: Justify why it is important for the CPA to address the problem now and the potential impact of not supporting the project. Ministry funding requirements generally should be addressed in the national budget which is being developed and your justification should address why the project should be funded prior to the budget.
3. Coordination: Demonstrate that you have fully coordinated the project with all of the necessary players - i.e. if this is a construction project, mention that you have coordinated with USAID or US Corps of Engineers. Describe the involvement of your Iraqi counterpart. Identify other implementing partners, such as UN agencies, NGOs, and if you have sought other funding contributors, identify the status of the contribution.
4. Goods and Commodities: For purchase of goods, identify the goods, price including transportation costs, quantity, where they will be purchased if known (i.e. local market, import), and how they will be brought into the country and attach cost estimates, if available.
5. Project Implementation: Describe the mechanism for implementation - i.e., contract, grant, or via disbursement of funds to Iraqi ministry, etc. Describe the mechanism for monitoring project implementation. Describe the project timeline.

If you have questions regarding this process, please contact the Program Coordination Office
Sherri G. Kraham, 914-360-6525; DSN: 318-239-5888; or KrahamS@orha.centcom.mil

Se macra are
4th ID Bajid?

We need to
get an update
on what is
the status of

N. Fort, later from

- 1) min
- 2) MSC
- 3) CPA - Noun?

- power?
- natural gas?
what is needed to get it
on-line

is that
rule?

2

Status of the Ministry of Industry and Minerals (MIM) 330 MW Independent Power Producer (IPP) Proposal

- The Iraqi MoF has declined to approve the \$27MM Letter of Credit backstopping the IPP contract
- It is not clear that the MIM has coordinated adequately with the MOE to purchase the excess electricity that is not used by a SOE from the IPP. Without the MoE, it is not clear if the MIM SOEs will generate enough cash to service the power purchasing agreement and it is not clear if the MoE will provide the proper connections to the main grid for the IPP
- MIM has not had an adequate legal review of the contract
- The investors have expressed a desire to re-open negotiations with the Iraqis
- Despite MIM assurances that the supply of residual fuel oil for the IPP is readily available, this appears to not be the case after consultations with the CPA MoE and the US Army Corps of Engineers. The Iraqi MIM coordination with the Iraqi MoOil appears to be weak

Options for the CPA:

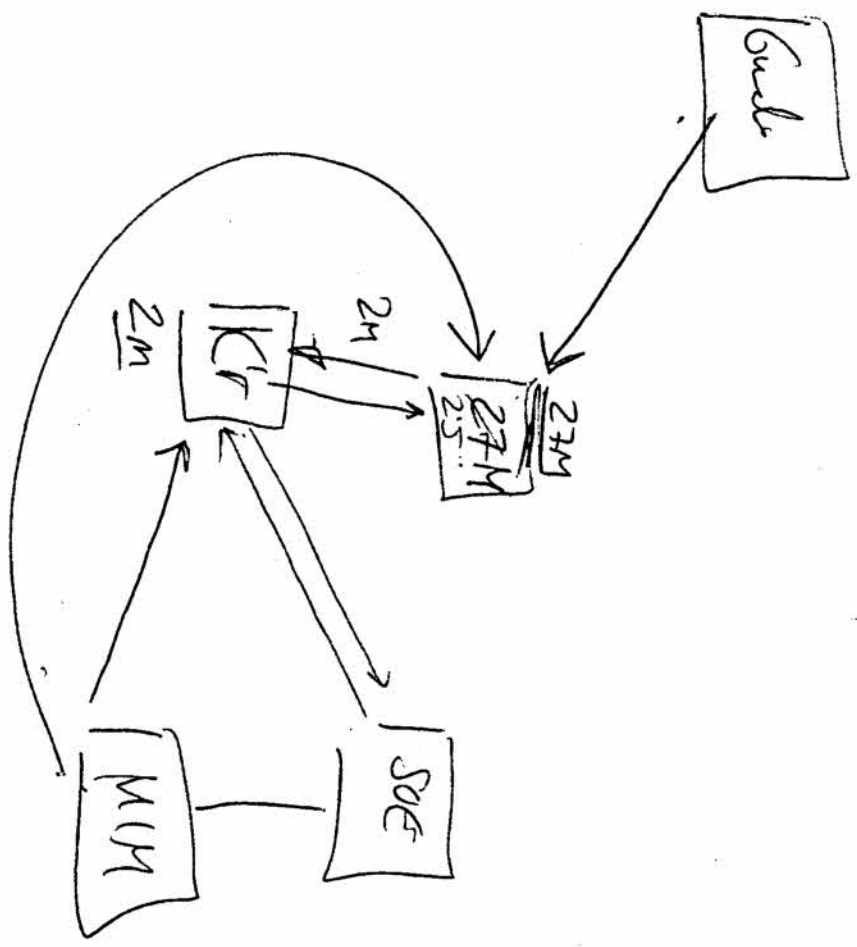
- 1) Pressure or override Iraqi MoF objection to the L/C
- 2) CPA to take an active role in re-negotiating and structuring the IPP
- 3) Seek \$200MM from the Iraqi 04 Budget for SOEs to:
 - Purchase residual fuel oil fired generators for select, critical SOEs
 - RFP includes plant installation
 - The RFP for the gensets would also require the vender to provide a one year contract to run and operate the genset for the MoElectricity (Long Term Service Agreement LTSA)
 - Excess power would be put into the main grid
 - The RFP would also include institutional building mechanisms in the LTSA. The MoE engineers currently do not have the training and skill sets to properly run a residual fuel oil fired generating system. The LTSA part of the RFP would include a requirement for the vender to train and certify Iraqi MoE plant engineers
 - The SOEs receiving the electricity would pay an agreed rate for electricity paving the way for the first steps in energy price liberalization

- The amount of time required to get a genset operational would be a critical criteria for selecting a vender

Next Steps:

- After consultations with Rodney Bent and Randy Richardson, Senior Advisor to the MoE, option 3 was chosen
- The US Army Corps of Engineers has an infrastructure team that will act as the executing agent to do technical assessments of the select SOEs, write the RFP, manage the RFP process and manage the chosen contractor
- For some of the IPP selected SOE sites, it appears that new generation may not be needed. Transmission and distribution line upgrades or natural gas line repairs may suffice to get electricity to the critical SOEs
- For other sites, the \$200MM can be used to augment existing new generation capacity already planned where the added power would be dedicated to the SOE

50E Power \rightarrow RESONANCE
ADD CAP.



450M/5

(b)(6)

From:

(b)(6)

Sent:

Sunday, February 22, 2004 9:19 AM

To:

(b)(6)

Subject:

FW: Tender document for Southern Fertilizer Company 22 MW unit

Sensitivity:

Confidential

1

Day Report of	Investigator	Date	Page
Disposition of	Investigator	Date	Page
Disposition of	Investigator	Date	Page

*2955
Mechanical Power Security Team*

The Iraqi Minister
received approval
involving letter of
and the Ministry of

IPP program did not
materialized, 5 year
program will not proceed

Official State Owned

purchase a generating

This project
electricity

for the IPP
maintain factory
related to the following

*Who do I call today
(Cyril Ave)*

- Ministry of
- Ministry of
- Ministry of
- Ministry of
- Ministry of
- Ministry of
- Ministry of
- Ministry of
- Ministry of
- Ministry of
- Ministry of

Ministry of
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Ministry of
Ministry of
Ministry of
Ministry of

*Did you see the note I sent
regarding the Ministry's list.
Other than Sami
he's behind
I met with the guy
behind
Closed doors today.*

the stack
is getting
smaller

more told
that even more
for them
sets
they wanted
Finance

the pieces will at least
take it off the table

We don't even know
if 27 is available

get
the \$27 locked
+ do the assessment
and for more

No	Name	Location	Minimum Requirement	Full Requirement	Own Generation	Damaged	Load ON Peak Period (1700-2400) MW	Load Off Peak Period (0-1700) MW
14	State Co. for Mechanical industries	Iskandaria/Hilla						
	a) Foundry		4 MW	10 MW		6MW	1	5*
	b) Foundry and Mechanical shop		2 MW	6 MW				
15	Nasser state Co. for Mechanical industries	Baghdad/Taji				6MW		
	a) Foundry	Baghdad/Taji	6 MW	22 MW			2	6.0*
	b) Tool Plant	Baghdad/Taji	1.5MW	3 MW				
	c) Steel Structures	Baghdad/Taji	1.5 MW	3 MW				
	d) Utilities	Baghdad/Taji	2 MW	2 MW	0.85	6MW		
16	AL-Sumood Industrial Co.	Baghdad/Taji						
	a) Heavy casting foundry		12MW	26MW				
	b) Continuous casting and melt shop		20MW	40MW				
	c) Heavy forging plant		4 MW	8MW				
	d) Closed Dd. Forging plant		2MW	6MW				
	e) Galvanized shop		1MW	1MW			1.0	6.0*
	f) Steel structures plant		1MW	1MW				
	g) Overhead Crans plant		1MW	1MW				
17	AL-Faris state Co.	Baghdad/Kharthiy	2MW	3MW	1MW	2MW		2.0*
18	Al Nasr Al Adheem State Industries	Baghdad/Dura	3MW	10MW		3MW		3.5*
19	State Co. for Electrical Industries							
	a) Taji Bulb Plant	Baghdad	1.5 MW	1.5 MW		1.5 MW	1	1.5*
	b) Wasiria Plant(14)	Baghdad	2 MW	6 MW		3.5MW		3.0*
20	Al Qadisya Co. for Electrical Industries	Diyala	5MW	10MW		6MW	2	4.0*
	a) Distribution transform	Diyala		2MW	2x0.5 MW			
	b) Power transforms	Diyala		2MW				
	c) Ceiling Fans Plant	Diyala		2MW				
	d) Electric Meters	Diyala		1MW				
	e) Steam Iron	Diyala		1MW				
	f) Fiber Optic Plant	Diyala		1MW				
	g) Argon Plant Overhead Crans Plants			1MW				

No	Name	Location	Minimum Requirement	Full Requirement	Own Generation	Damaged	Load ON Peak Period (1700-2400)MW	Load OFF Peak Period (0-1700)MW
21	Use state Co. for Engineering Industry	Nasiriyah		4MW		10MW	2	1.0
	a)Aluminium Plant		3MW	6MW				
	b)Cable Plant		3MW	8MW				
22	State Company for Car Manufacturing	Iskandariyah	2MW	3MW		1MW		1.0
	a)main plant		1MW	2MW				
	b)Enging plant		1MW	1MW				
	c)Baghdad centre							
23	The Nissan 17 April state Co	Baghdad						
	a)Emblem plant	Baghdad	1MW					
	b) Aqluminium plant	Baghdad	1MW					
	c)precision foundary	Baghdad	2MW					
24	d)Road sign plant	Baghdad	1MW					
	state Co. for woolen industries	Baghdad						
	a)Taji plants	Baghdad/Taji	2.5MW	2.5MW		2MW	1	2.0
	b)Carpets	Baghdad/Taji	2MW	2MW	2MW	2MW	1	2.0
25	c)Nassiriyah plant	Nassiriyah	5MW	5MW			2	1.5
	State Company for Cotton Industries							
	a)Medical Cotton	Baghdad	2MW	2MW	2X0.5MW	2MW		
	b)Baghdad plant	Baghdad	3MW	6MW	1MW	2MW		
	c)Musci plant	Musci	3MW	8MW	1MW	4MW		
	d)Diwaniah plant	Diwaniah	3.5MW	7MW		3MW		
4	e)Kirkuk plant	Kirkuk	4MW	4MW			1	2.0
	State Co. for Textile industries Hilla	Hilla/Babil	3MW	6MW	1MW	3MW		

No.	Name	Location	Minimum Requirement	Full Requirement	Own Generation	Damaged	Load ON Peak Period (1700-2400)MW	Load Off Peak Period (0-1700)MW
27	Waist Co. for textile industries	Hilla/Babil	3.5MW	7MW	1MW		1.0	4.0
28	State Co. for tires & Rubber-Najaf						2.0	3.5
	a)Main plant	Najaf	3MW	7.5MW	1MW	3.5MW		
	b)Rubber Hoses plant	Najaf	1MW	1MW	0.5MW			
	c)Rubber Belts plant	Najaf	1MW	1MW	0.5MW			
29	State Co. for tires & Rubber-Diwaniya	Diwaniya	3.5MW	7.5MW	1MW	3.5MW	1.0	3.5
30	State Co. for Ready made Wear Industries							
	a)Musul plant	Musul	2MW	0.5MW	1MW	1.5MW		
	b)Baghdad plant	Baghdad	1MW	1MW	1MW	1.5MW		
	c)Anna plant	Anna	0.5MW	0.5MW		0.5MW		
	d)Najaf plant	Najaf	2MW					
31	Al Furat State Co.	Hilla/Babil						
	a)Main plant	Hilla/Babil	5MW	5MW	0.5MW	5MW	5	5.0
	b) Starch plant	Hilla/Babil	0.5MW	1MW	0.5MW	0.5MW		0.76
32	State Co. for leather industries							
	a)Main works	Baghdad	1MW	1MW	1MW	1MW	1.0	2.0
	b)leather Treatment	Baghdad	2MW	2MW		2MW		0.75
	c)Najaf plant	Najaf	0.5MW	1MW	0.5MW	0.5MW		
33	State Co. for Battery Manufacturing							
	a)Vasifa plant	Baghdad	2MW	2MW	1MW	2MW	1.0	2.0
	b)Khan thary plant	Baghdad	1.5MW	1.5MW	0.5MW	1.5MW	0.5	1.5
	c)Taji Dry Cell plant	Baghdad	1.6MW	1.5MW		1.5MW		1.5

(b)(6)

From: (b)(6)

Sent: Tuesday, February 24, 2004 3:19 PM

To: (b)(6)

Cc:

Subject: Cost/Benefit Analysis of IPP vs Loan from Min Ag for State Company for Fertilizer/Southern Branch

Dear Minister Tofiq

I trust that you are doing well.

Further to our discussions last Thursday about the cost/benefit of the different power sector options for the State Company for Fertilizer/Southern Branch.

Please find attached the calculations that will be presented to (b)(6) tonight when he arrives Basra.

The conclusions are very clear. The cost of the IPP contract will be approximately USD 20 m more expensive over the five year period than the Min of Ag loan. The likelihood that there will be a power failure in the plant is estimated to 14.6% per year or 73% for the five year period with one generator installed as proposed by CPA S.

This means that it the plant can expect between 0 and 1 power failures over the five year period which is significantly less than under the old regime and acceptable by international standards.

Based on these estimations, I am confident that (b)(6) will agree with us that the Min of Ag loan/prepayment is the best solution to solve the power problems in the State Company for Fertilizer/Southern Branch.

Please also note that each day we are delaying the decision about the appropriate power sector solution for the plant costs an estimated USD 150,000. It is therefore important to take the decision sooner rather than later.

CPA S has already prepared the tender for the gas turbine purchase with an O&M contract. We are ready to launch the tender tomorrow and can have the generator installed by 15 May if get the go ahead from MIM today or tomorrow.

Yours sincerely

(b)(6)

Trade and Industry Team Leader
Department for Economic Planning and Development
Coalition Provisional Authority South (CPA S)

(b)(6)

2/25/2004

Cost/Benefit Analysis of Leasing Vs. Buying Generator for State Company for Fertilizer/Southern Branch

Leasing	Year 1	Year 2	Year 3	Year 4	Year 5
Purchase 144,000 kw H per months for 60 Months. Price USD 0,0319 per Kwh which included O&M contract (using 5% discount rate)	5,512,320	5,249,829	4,999,837	4,761,749	4,534,999
Likelihood of power cut (estimated grid 10%, Generator 1 6% Generator 2 6%)	0,036%	0,036%	0,036%	0,036%	0,036%
Cost per power cut (loss 10 days production at 1500 ton per day)	540	540	540	540	540
Cost of extra Installation time estimated at 60 days (production 1500 ton per day, at 100 USD per ton)	9,000,000				
Cost of collateral payment (assuming Interest rate 5%)	91,872	91,872	91,872	91,872	91,872
Total Cost Leasing Option					

Purchase	Year 1	Year 2	Year 3	Year 4	Year 5
Purchase of 22 MW generator	12,000,000				
O&M Contract	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Likelihood of power cut (estimated grid 10%, Generator 1 6%)	0.60%	0.60%	0.60%	0.60%	0.60%
Cost per power cut (loss 10 days production at 1500 ton per day)	9000	9000	9000	9000	9000
Resale value for generator estimated at 1/3 of purchasing price discounted by 5% per annum					-3,290,810
Total Cost Purchasing Option					

(b)(6)

From: (b)(6)
Sent: Tuesday, February 17, 2004 7:41 PM
To: 'mohamad tofiq'
Cc: (b)(6)
Subject: IPP-Important

17 February 2004

Dear Minister Tofiq:

It is important that we advise you that the IPP contract that we've been working on is not going to happen. The Iraqi Ministry of Finance has rejected the concept of providing cash collateralized letters of credit to back up the contracts.

Furthermore, after consultations with various CPA advisors, it appears that the Ministry of Electricity does not have the budget to purchase the excess electricity from the IPP thus putting the full burden on the SOE/MIM to buy all the power. Additionally, the Ministry of Oil may not be able to or committed to provide a reliable supply of residual fuel oil. Finally, the Turkish investors have approached us and implied that they may want to re-open negotiations with MIM. In short, it does not appear to us that this IPP has a chance of working and believe alternative solutions should be pursued.

The good news is that we may have an alternate proposal that can get power to critical SOEs. From the Iraqi budget perspective, this alternate solution is less expensive than the \$410 million, 5 year IPP contract proposed by the Turks.

We are seeking funding to either purchase power generation units and/or to upgrade the transmission and distribution grid around the following SOEs:

State Phosphate/Iraqi Cement in Al Qaim, Iraqi Cement at Kubaisa and Kirkuck, Northern Cement at Badosh and Sinjar, Southern Cement at Karbala and Kufa.

(CPA/South has already taken care of Southern Cement in Muthana and it is, therefore, not included in the list above)

If necessary, broken natural gas lines will also be repaired. The funds will be allocated to provide electricity to the SOEs. The generating sets will be run by the Ministry of Electricity. It appears that we have access to enough funds to upgrade the SOEs where the overall cost for Iraq will a lot lower than the IPP contract and the probability of success is a lot higher

Further, we urge you to reconsider the loan offer made by the Ministry of Agriculture, particularly since the IPP contract is no longer an option. In fact, perhaps we could convince the Minister of Agriculture to do the same for Northern Fertilizer?

I will call you tomorrow morning to answer any questions that you have and to discuss the matter further.

2/19/2004

Disposition (including expenditure authorized):

Description of Program or Goods To Be Purchased - Please See Above Instructions

The \$27 Million will be used as collateral for a Stand by Letter of Credit to provide a performance guarantee for the Ministry of Industry with its Independent Power Producers

The MIM has negotiated contracts with IPP to provide power platforms to the more lucrative companies within the MIM portfolio (cement, phosphate, petrochemical) The IPP will deliver 330 MW of electricity to the company (at 3.18 cents per kilowat hour) (compared to the bilateral negotiated prices of 8 cents). This amount equates to 10% of the current grid. The IPP will own and operate the platforms.

The grid has failed to provide the electricity too get these companies - the commanding heights - the power they need to get up and running. Upon contract signature the vendors will provide delivery of electricity within 4.5 months to the nine site locations. Five of the nine companies have already signed the contracts.

Details are as follows:

<u>Company</u>	<u>Activity/Location</u>	<u>MW</u>	
State Phosphate/ Iraqi Cement	Al Qaim Al Qaim Cement	60	GU 005001
7 Iraqi Cement	Kubaisa Cement	43	Al Anbar
over Iraqi Cement	Kirkuck Cement	55	A + Taim
Northern Cement	Badosh Cement	35	Mosul LF1464034414
Northern Cement	Sinjar Cement	34	K# 375260
Southern Cement	Karbarla Cement	35	LB96960364
Southern Cement	Muthana Cement	35	MA46503667
Southern Cement	Kufa Cement	25	4- 25mw
Southern State Company for Fertilizers		11	Bassa QU734425
Northern Fertilizer	Bagi, Salahdin		LE52338843
			17mw NG
Petrochemical			QU 619585
			Bassa 10mw NG

Official name
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 name

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Cost/Benefit Analysis of Leasing Vs Buying Generator for State Company for Fertilizer (Southern B

Leasing	Year 1	Year 2	Year 3	Year 4	Year 5
Months. Price USD 0,0319 per Kwh which included O&M contract (using 5% discount rate)	5,512,320	5,249,829	4,999,837	4,761,749	4,534,999
Likelihood of power cut (estimated grid 10%, Generator 1 6% Generator 2 6%)	0,036%	0,036%	0,036%	0,036%	0,036%
Cost per power cut (loss 10 days production at 1500 ton per day)	540	540	540	540	540
Cost of extra Installation time estimated at 60 days (production 1500 ton per day, at 100 USD per ton)	9,000,000				
Cost of collateral payment (assuming interest rate 5%)	91,872	91,872	91,872	91,872	91,872
Total Cost Leasing Option					
Purchase	Year 1	Year 2	Year 3	Year 4	Year 5
Purchase of 22 MW generator	12,000,000				
O&M Contract	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Likelihood of power cut (estimated grid 10%, Generator 1 6%)	0.60%	0.60%	0.60%	0.60%	0.60%
Cost per power cut (loss 10 days production at 1500 ton per day)	9000	9000	9000	9000	9000
Resale value for generator estimated at 1/3 of purchasing price discounted by 5% per annum					-3,290,810
Total Cost Purchasing Option					

13,754,190

-3,290,810

45000

5,000,000

12,000,000

Total

34,520,794

459,360

9,000,000

2700

25,058,734

Total

Range

(b)(6)

From:

(b)(6)

Sent:

Thursday, February 26, 2004 2:58 PM

To:

(b)(6)

Cc:

Subject:

Outcome of discussions with MIM about power for State Company for Fertilizer/Southern Branch

(b)(6)

(b)(6) and two other representatives from MIM have visited Basra over the last couple of days to discuss and agree on the optimal power solution for the State Company for Fertilizer/Southern Branch.

CPA S started to work on this project after a visit to the SCF by Robert Apsley the head of power some six weeks back. After a detailed discussion, he recommended that the most cost effective solution for the plant was to install one 22 MW generator.

We have since prepared the tender documents for the purchase of the tender, secured the financing and were ready to launch the tender in the coming days. However Robert has had a rethink about the stability of the grid over the last weeks and come to the conclusion that the power provision to the plant will be at least as stable as in 2002 when the company had only one power outage. The SCF is a category 1 facility which means that the company together with hospitals and other emergency services will be cut off only when there is a general black out in the whole of Iraq.

I asked (b)(6) and Mr. Mahdi to visit the DG Power Distribution in Southern Iraq to get a second opinion about the stability of the grid. Mr. Mahdi has already paid him a visit some four weeks back after initial discussions. The DG was then advising us to install a generator but has now modified his views somewhat. He was not willing to give any guarantees but confirmed that the power generation would be stable or increasing in the coming months and that the SCF would be allocated 22 MW power on a priority basis.

This is indeed very good news. On balance, (b)(6) Mr. Mahdi and I decided to follow Robert Apsley's recommendation and will neither go for a purchase of a generator nor a IPP.

We will seek to utilize the USD 12 m loan from the Min of Ag to invest in emergency repairs in the plant which could double its production of Urea to 750-800,000 ton per year.

The strategy that has been selected is obviously not without risk but is backed up by some realities on the ground. The power to the SCF has been stable for the last months and they have started producing again.

I am quite surprised by the turn of events but think that we should look at this as a good news story more than anything else.

We agreed with MIM that we will proceed with discussions with Min Ag about the loan as additional investments are desperately needed in the plant.

I welcome views and comments.

Kind regards

(b)(6)

< Jun 1
Stabilized

15 mw wd get
one pro line
going.

(b)(6)

Trade and Industry Team Leader

Electricity for Industry:-

no	Name	Location	Minimum Requirement	Full Requirement	Own Generation	Demand Damaged	Load ON Peak Period (1700-2400)MW	Load Off Peak Period (0-1700)MW
1	Northern State Co. for Cement	Mousil	45 MW	105 MW			20	
		Badoosh	15 MW	50 MW		20MW		20.0
		Sabonjh/Badoosh	5 MW	5 MW		5MW		1.50
		Hamam Aili	5 MW	15 MW		10MW		10.0
		Sinjar	20 MW	35 MW		17MW		17.0
2	Iraqi State Co. for Cement						25	
		Kubaise/Anbar	20 MW	43 MW		10MW		16
		Kirkuk/Tameem	20 MW	34 MW		20MW		17
		Qaem/Anbar	15 MW	22.5 MW		5MW		5.0
		Faloja/Anbar	5 MW	7.0 MW		2.5 MW		2.5
3	Southern State Co. for Cement						25	
		Old Kufa	5 MW	5 MW		3.5 MW		3.5
		New Kufa	15 MW	29 MW		8.5 MW		11.5
		Karbala	20 MW	34 MW		20MW		17
		Karbala/Lime	2 MW	4 MW		4MW		2.5
		Muthana/Samawa	20 MW	34 MW		10MW		17
		South Plant/Samawa	10 MW	15 MW		1MW		6.0
			5 MW	5 MW				
		Sadat Al-Hindia/Babil	5 MW	7 MW		3MW		3.5
4	Southern State Co. for fertilizer Industry	Basra/Khor Al-Zubair	15 MW	25 MW		15MW	15.0	15.0
5	Northern State Co. for Fertilizer Industry	Baiji/Salah Alidin	7 MW	10 MW		7MW	5.0	7.0
6	State Co. for Phosphate	Qaem/Anbar	25 MW		2x14MW		1.5	5.0
7	State Co. for Petrochemical Industries	Basra/khor Al-zubair	25MW	25MW	4x17 MW		15.0	15.0

No	Name	Location	Minimum Requirement	Full Requirement	Own Generation	Damaged nd	Load ON Peak Period (1700-2400) MW	Load Off Peak Period (0-1700) MW
8	State Co. for Iron & Steel Industry	Basra/Khor Al-zuber						
	a)Sponge Lion	Basra/Khor Al-zuber	5 MW	10 MW				
	b)Iron and Steel	Basra/Khor Al-zuber	50 MW	190 MW	2.5 MVA			
	Pipe Planr	Um-Qassr	2 MW	2 MW	2 MVA			
9	State Co. for Paper Industries							
	a)Basra Plant	Bsra	4 MW	8 MW		7MW	1.0	7.0*
	b)Amara Plant	Missin	4MW	8 MW	2x4 MW			3.0*
	c)Baghdad Plant	Bagdad/Taji	1 MW	1 MW		1 MW		1.5*
10	State Co. for Sugar industries							
	a)Mosul plant	Mosul	4MW	4MW	4MW	4MW		
	b)Amara plant	Missan	4MW	4MW				
	c)Yeast plant	Mosul	1.5MW	1.5MW		1.5MW	1	1
11	State Co. for Glass & Ceramics Industries	Ramadi/Anbar						
	a)Glass Plant	Ramadi/Anbar	4W	8 MW	2x4 MW	5MW	2.5	4
	b)Ceramic Plant	Ramadi/Anbar	2 MW	2 MW				
	C)	Ramadi/Anbar	2 MW	2 MW		1.5MW		
12	Retroctorise	Faluja/Anbar	2 MW	2 MW			0.5	1.5
13	State Co. for Construction Industries							
	Plastic Pipe Plant	Baghdad	2 MW	2 MW		2MW	2.0	2.0*
	Plastic Pipe Plant	Amara/Missan	2 MW	2MW	1MW			2.0*
	Baghdad Brick Plant	Baghdad	2 MW	2 MW	1MW	2MW		2.0*
	Abunwas Plant	Baghdad	2MW	2 MW	1MW	2MW		2.0*
	Mahaweel Plant	Babil	2 MW	2 MW	1MW	2MW		2.0*
	Qadisla Plant	Diwania	2MW	2MW	1MW	2MW		2.0*
	Swaera Plant	Kut	2 MW	2 MW	1MW			
	Concrte Poles	Mousl	0.75MW	0.75MW				
	Concrte Poles	Baghdad	0.75 MW	0.75MW	0.50MW	1MW		1.0*
	Marbel Plant	Baghdad	1MW	1 MW	0.50MW	1MW		
	Nibail Quarry	Baghdad	1 MW	1 MW	0.75MW			
	Karbala	Karbala	1MW	1 MW	0.75MW			

Name	Location	Minimum Requirement	Full Requirement	Own Generation	Damaged ^{ad}	Load ON Peak Period (1700-2400) MW	Load Off Peak Period (0-1700) MW
State Co. for Mechanical Industries	Iskandaria/Hilla						
a) Foundry		4 MW	10 MW		6MW	1	5*
b) Foundry and Mechanical shop		2 MW	6 MW				
Nasser state Co. for Mechanical industries	Baghdad/Taji				6MW		
a) Foundry	Baghdad/Taji	6 MW	22 MW			2	6.0*
b) Tool Plant	Baghdad/Taji	1.5MW	3 MW				
c) Steel Structures	Baghdad/Taji	1.5 MW	3 MW				
d) Utilities	Baghdad/Taji	2 MW	2 MW	0.85	6MW		
AL-Sumood Industrial Co.	Baghdad/Taji						
a) Heavy casting foundry		12MW	26MW				
b) Continuous casting and melt shop		20MW	40MW				
c) Heavy forging plant		4MW	8MW				
d) Closed Dd. Forging plant		2MW	6MW				
e) Galvanized shop		1MW	1MW			1.0	6.0*
f) steel structures plant		1MW	1MW				
g) Overhead Crans plant		1MW	1MW				
AL-Faris state Co.	Baghdad/ Kharthiy	2MW	3MW	1MW	2MW		2.0*
Al Nasr Al Adheem State industries	Baghdad/Dura	3MW	10MW		3MW		3.5*
State Co. for Electrical industries							
a) Taji Bulb Plant	Baghdad	1.5 MW	1.5 MW		1.5 MW	1	1.5*
b) Wasiria Plant(14)	Baghdad	2 MW	8 MW		3.5MW		3.0*
Al Qadisya Co. for Electrical industries	Diyala	5MW	10MW		6MW	2	4.0*
a) Distribution transform	Diyala		2MW	2x0.5 MW			
b) Power transforms	Diyala		2MW				
c) Ceiling Funs Plant	Diyala		2MW				
d) Electric Meters	Diyala		1 MW				
e) Steam Iron	Diyala		1 MW				
f) Fiber Optic Plant	Diyala		1 MW				
g) Argon Plant Overhead Crans Plants			1 MW				

No	Name	Location	Minimum Requirement	Full Requirement	Own Generation	% of Damaged	Load ON Peak Period (1700-2400)MW	Load Off Peak Period (0-1700)MW
21	Ure state Co. for Engineering industry	Nassiriah/teqar		4MW		10MW		
	a)Aluminium Plant		3MW	8MW			2	10
	b)Cable Plant		3MW	8MW				
22	State Company for Car Manufacturing	Iskandaria/ Babil	2MW	3MW		1MW		1.0°
	a)main plant		1MW	2MW				
	b)Enging plant		1MW	1MW				
	c)Baghdad centre							
23	The Nissan 17 April state Co	Baghdad						
	a)Emblem plant	Baghdad	1MW					
	b) Aqulminium plant	Baghdad	1MW					
	c)precision foundary	Baghdad	2MW					
	d)Road sign plant	Baghdad	1MW					
24	state Co. for woolen industries	Baghdad						
	a)Taji plants	Baghdad/Taji	2.5MW	2.5MW		2MW	1	2.0°
	b)Carpets	Baghdad/Taji	2MW	2MW	2MW	2MW	1	2.0°
	C)Nassiria plant	Nassiria	5MW	5MW				
25	State Company for Cotton Industries							
	a)Medical Cotton	Baghdad	2MW	2MW	2X0.5MW	2MW	2	1.5°
	b)Baghdad plant	Baghdad	3MW	6MW	1MW	2MW		2.0°
	c)Musol plant	Musol	3MW	6MW	1MW	4MW		4.0°
	d)Diwania plant	Diwania	3.5MW	7MW		3MW		4.0°
	e)kirkuk plant	kirkuk	4MW	4MW				2.0°
26	State Co. for Textile industries Hilla	Hilla/Babil	3MW	6MW	1MW	3MW	1	3.0

NO.	Name	Location	Minimum Requirement	Full Requirement	Own Generation	Damaged nd	Load ON Peak Period (1700-2400)MW	Load Off Peak Period (0-1700)MW
27	Waist Co. for textile industries	Hilla/Babil	3.5MW	7MW	1MW		1.0	4.0
28	State Co. for tiers & Rubber-Najaf						2.0	3.5
	a)Main plant	Najaf	3MW	7.5MW	1MW	3.5MW		
	b)Rubber Hoses plant	Najaf	1MW	1MW	0.5MW			
	c)Rubber Belts plant	Najaf	1MW	1MW	0.5MW			
29	State Co. for tires & Rubber-Diwaniya	Diwaniya	3.5MW	7.5MW	1MW	3.5MW	1.0	3.5*
30	State Co. for Ready made Wear industries							
	a)Musol plant	Musol	2MW	0.5MW	1MW	1.5MW		
	b)Baghdad plant	Baghdad	1MW	1MW	1MW	1.5MW		
	c)Anna plant	Anna	0.5MW	0.5MW		0.5MW		
	d)Najaf plant	Najaf	2MW					
31	Al Furat State Co.	Hilla/Babil						
	a)Main plant	Hilla/Babil	5MW	5MW	0.5MW	5MW	5	5.0
	b) Starch plant	Hilla/Babil	0.5MW	1MW	0.5MW	0.5MW		0.75
32	State Co. for leather industries							1.0*
	a)Main works	Baghdad	1MW	1MW	1MW	1MW	1.0	2.0*
	b)Leather Treament	Baghdad	2MW	2MW		2MW		0.75*
	c)Najaf plant	Najaf	0.5MW	1MW	0.5MW	0.5MW		
33	State Co. for Battery Manufacturing							
	a)Wasiria plant	Baghdad	2MW	2MW	1MW	2MW	1.0	2.0*
	b)Khan thary plant	Baghdad	1.5MW	1.5MW	0.5MW	1.5MW	0.5	1.5*
	c)Taji Dry Cell plant	Baghdad	1.6MW	1.5MW		1.5MW		1.5*

No.	Name	Location	Minimum Requirement	Full Requirement	Own Generation	Damaged	Load ON Peak Period (1700-2400)MW	Load Off Peak Period (0-1700)MW
34	The general Co for Vegetable Oils							
	a)Amin plaqnt	Baghdad		2MW	1MW	2MW	4	2.0
	b)Mamoon plant	Baghdad		2MW		2MW		2.0
	c)Rasheed plant	Baghdad		2MW		2MW		2.0
	d)Amara plant	Missan		2MW		2MW		2.0
	e) Baiji plant	Salh Alldin		2MW		2MW		2.0
35	State Co. for Dairy Product							
	a)Baghdad plant			2MW	2MW	1MW	1.0	2.0*
	b)Diwania plant			1MW		1MW	0.5	2.0*
	c)Musol plant			1MW		1MW	1.0	2.0*
36	Al Sawari Co. for chemical industries							
	a)Ink plant	Baghdad	1MW	1MW		1MW		1.0*
	b) Rockwool plant	Baghdad	1MW	1.5MW		1MW		1.0*
	c) Resins plant	Baghdad/Taji	1MW	2.5MW	0.5MW			1.0*
	d)GRP & fiber glaqss plantiimare	Baghdad/Taji						1.0*
	e)That AL Sawari plant	Baghdad/Taji	2MW	2MW	2MW			
37	AL Mishraq sulfur industry co.	Musol	2MW		1MW	2MW		
38	Drugs & Medical Supplies-Samarra	Musol	3MW	5MW		4MW		5.0*
39	Drugs & Medical Supplies-Ninawa	Musol	3MW	4MW		4MW		4.0*
40	AL-zawra Co.	Baghdad	2MW	5MW	6MW	2MW		
41	Tabacco Co.	Baghdad Plant	2MW	3MW	3MW	1.5MW		
		Habibia Plant	3MW	5MW		3MW		
42	Ibin Sina Co.	Baghdad Plant	3MW	5.5MW		3MW	1.5	2.0*

*: mean at time from(8-4).

marks:-

Priority Companies are Marked with yellow colore.

The total Electricity power supplied before the Ramadan month reached to 290 MW.

(Total power generation excluded) and suffered from continual interruption.

During the month of Ramadan the supply dropped by 50%.

OMB Monthly Oil Revenue Forecasts⁽¹⁾

3/4/2004

2003													
	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
Production (Mmbbls/d)	-	-	-	-	-	-	0.88	1.34	1.70	2.05	2.13	2.29	1.73
Domestic Use (Mmbbls/d)	-	-	-	-	-	-	-	-	-	-	-	-	-
Available Exports (Mmbbls/d)	-	-	-	-	-	-	0.30	0.34	0.74	1.02	1.05	1.52	0.83
Total Exports (Mmbbls)							8.94	10.71	22.07	30.49	32.62	49.79	154.62
\$/bbl	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25.17	\$ 25.96	\$ 24.38	\$ 24.84	\$ 24.86	\$ 26.36	\$ 25.26
Revenue (\$USD in millions)							\$ 225	\$ 278	\$ 538	\$ 757	\$ 811	\$ 1,313	\$ 3,922

2004 ⁽²⁾													
	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
Production (Mmbbls/d)	2.19	2.16	2.19	2.40	2.40	2.40	2.40	2.50	2.50	2.50	2.55	2.55	2.40
Domestic Use (Mmbbls/d)	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Available Exports (Mmbbls/d)	1.54	1.51	1.54	1.75	1.75	1.75	1.75	1.85	1.85	1.85	1.90	1.90	1.75
Total Exports (Mmbbls)	47.74	43.90											
\$/bbl	\$ 25.58	\$ 26.35	\$ 24.00	\$ 23.00	\$ 22.00	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00	\$ 22.33
Revenue (\$USD in millions)	\$ 1,221	\$ 1,157	1,146	1,207.5	1,193.5	1,102.5	1,139.25	1,204.35	1,165.5	1,204.35	1,197	1,178	\$ 14,116

2005 ⁽³⁾													
	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
Production (Mmbbls/d)	2.65	2.65	2.75	2.75	2.75	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.76
Domestic Use (Mmbbls/d)	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Available Exports (Mmbbls/d)	2.00	2.00	2.10	2.10	2.10	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.11
Total Exports (Mmbbls)													
\$/bbl	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00	\$ 21.00
Revenue (\$USD in millions)	\$ 1,302	\$ 1,302	\$ 1,235	\$ 1,367	\$ 1,323	\$ 1,400	\$ 1,355	\$ 1,400	\$ 1,400	\$ 1,355	\$ 1,400	\$ 1,355	\$ 16,191

(1) Receipts lag export by 30 days

(2) March 2004: Mbot in South comes on line with estimated 200,000 bbls/d

July 2004: Northern pipeline comes online with estimated 100,000 bbls/d

October 2004: Northern pipeline produces additional 50,000 bbls/d

(3) Forecasted export revised down from initial estimate

VERIFY

Appendix B – Category 1 Industrial Loads

Category 1 Industrial Electrical Power Loads

No.	Name	Location	Governorate	Minimum Operational Capacity (MW)	Maximum Operational Capacity (MW)	Load Factor (%)	Peak Load (MW)	Off-Peak Load (MW)
1	Northern State Co. for Cement	Badoosh	Ninawa	15	50	20	20	30
		Sabonji/Badoosh	Ninawa	5	5		1.5	3.5
		Hammam Ali	Ninawa	5	15		10	5
		Sinjar	Ninawa	20	35		17	18
		Totals	45	105	20		48.5	56.5
2	Iraqi State Co. for Cement	Kubaise	Anbar	20	43	25	16	27
		Kirkuk	Al-Tamim	20	34		17	17
		Qaem	Anbar	15	22.5		5	17.5
		Fullujah	Anbar	5	7		2.5	4.5
		Totals	60	106.5	25		40.5	66
3	Southern State Co. for Cement	Old Kufa	Najaf	5	5	25	3.5	1.5
		New Kufa	Najaf	15	29		11.5	17.5
		Karbala	Karbala	20	34		17	17
		Karbala/ Lime	Karbala	2	4		2.5	1.5
		Samawa	Muthanna	20	34		17	17
		South Plant/ Samawa	Muthanna	10	15		6	9
				5	5			5
		Sadat Al-Hindia	Babil	5	7		3.5	3.5
		Totals	82	133	25		61	72
4	State Co. for	Khor Al-Zubair	Basrah	15	25	15	15	10
5	State Co. for	Balji	Salah Al Din	7	10	5	7	3
6	for Phosphat	Qaem	Anbar	25		1.5	5	-5
7	for Petroche	Khor Al-Zubair	Basrah	25	25	15	15	10
8	State Co., Main	Hilla	Babil	5	5	5	5	0
Overall Totals				264	409.5	111.5	197	212.5

Total additional Off Peak Allocation (MW)

212.5

Appendix C – Category 2 Industrial Loads

Category 2 Industrial Electrical Power Loads							
No.	Name	Location	Governorate	Minimum Requirement (MW)	Full Requirement (MW)	Load on Peak Period (1700-2400) (MW)	Load on Peak Period (0900-1700)
8	Co. for Iron & Sponge	Khor Al-Zub	Basrah				
	Lion	Khor Al-Zub	Basrah	5	10		
	and Steel	Khor Al-Zub	Basrah	20	190		
	Pipe Plant	Umm Qasr	Basrah	2	2		
9	Co. for Basrah Plant	Basrah	Basrah	4	8	1.7*	
	Amara Plant	Amara	Maysan	4	8	3*	
	Baghdad Plant	Taji	Baghdad	1	1	1.5*	
	Co. for Sugar						
10	Mosul	Mosul	Ninawa	4	4		
	Amara Plant	Amara	Maysan	4	4		
	Yeast Plant	Mosul	Ninawa	1.5	1.5	1	1
	Co. for Glass & Glass Plant	Ramadi	Anbar				
11	Ceramic Plant	Ramadi	Anbar	4	8	2.5	4
	C)	Ramadi	Anbar	2	2		
	Retrof						
	orise	Fullujah	Anbar	2	2	0.5	1.5
13	Co. for Constru						
	Pipe	Baghdad	Baghdad	2	2	2	2*
	Pipe Plant	Amara	Maysan	2	2		2*
	d Brick Plant	Baghdad	Baghdad	2	2		2*
	Abunwa s Plant	Baghdad	Baghdad	2	2		2*
	eel Plant		Babil	2	2		2*
	Qadisla Plant	Diwania	Qadisliyah	2	2		2*
	Plant	Kut	Wasit	2	2		
	Concret e Poles	Mosul	Ninawa	0.75	0.75		
	e Poles	Baghdad	Baghdad	0.75	0.75		1*
	Plant	Baghdad	Baghdad	1	1		
	Nibail Quarry	Baghdad	Baghdad	1	1		
	Karbala	Karbala	Karbala	1	1		

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Category 2 Industrial Electrical Power Loads

No.	Name	Location	Governorate	Minimum Requirement (MW)	Full Requirement (MW)	Load on Peak Period (3000-2400) (MW)	Load on Peak Period (0000-1800)
14	Co. for Mechan A)	Iskandaria	Babil				
	Foundry			4	10	1.5*	
	Foundry and			2	6		
15	State Co. for	Taji	Baghdad				
	Foundry	Taji	Baghdad	6	22	2.6*	
	B) Tool Plant	Taji	Baghdad	1.5	3		
	Structur es	Taji	Baghdad	1.5	3		
	D) Utilities	Taji	Baghdad	2	2		
16	Sumood Industri	Taji	Baghdad				
	Heavy			12	26		
	Continu ous			20	40		
	Heavy Forging			4	8		
	Closed Dd.			2	6		
	Galvani zed			1	1	1.6*	
	Structur es Plant			1	1		
	Overhe ad			1	1	2*	
17	State Co.	Kharthly	Baghdad	2	3		3.5*
18	Al Adheem	Dura	Baghdad	3	10		
19	Co. for Bulb Plant	Baghdad	Baghdad	1.5	1.5	1.5*	
	Wesina Plant	Baghdad	Baghdad	2	8	3*	
20	Qadisiy a Co.	Diyala	Diyala	5	10	2.4*	
	Distribut ion	Diyala	Diyala		2		
	Power Transfo	Diyala	Diyala		2		
	Ceiling	Diyala	Diyala		2		
	Electric Meters	Diyala	Diyala		1		
	Steam	Diyala	Diyala		1		
	Optic	Diyala	Diyala		1		
	G) Argon Plant Overhe ad Cranes Plants				1		

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Category 2 Industrial Electrical Power Loads							
No.	Name	Location	Governorate	Minimum Requirement (MW)	Full Requirement (MW)	Load on Peak Period (1700-2400 MW)	Load on Peak Period (0000-1700)
21	Co. for Enginee	Nasseriya	Dhi Qar		4		10
	Aluminu m Plant			3	8	2	
	Cable Plant			3	8		
22	Compa ny for	Iskandaria	Babil	2	3		1*
	Plant			1	2		
	Engine Plant			1	1		
	Baghda d						
23	Nissan 17 April Emblem Plant	Baghdad	Baghdad				
	Aluminu	Baghdad	Baghdad	1			
	Precisio n	Baghdad	Baghdad	2			
	Sign Plant	Baghdad	Baghdad	1			
	Co. for Woolen	Baghdad	Baghdad				
24	A) Taji Plant	Taji	Baghdad	2.5	2.5	1 2*	
	B) Carpets	Taji	Baghdad	2	2	1 2*	
	Nessen ya Plant	Nasseriya	Dhi Qar	5	5		
	Compa ny for						
25	Medical Cotton	Baghdad	Baghdad	2	2	2 1.5*	
	Baghda	Baghdad	Baghdad	3	6	2*	
	Mosul Plant	Mosul	Ninawa	3	6	4*	
	Diwania Plant	Diwania	Qadisiyah	3.5	7	4*	
	Kirkuk Plant	Kirkuk	At'Tamim	4	4	2*	
	Co. for Textile	Hilla	Babil	3	6	1	3
26	Co. for Textile	Hilla	Babil	3.5	7	1	4
27	Co. for					2	3.5
	A) Main Plant	Najaf	Najaf	3	7.5		
	Rubber	Najaf	Najaf	1	1		
	Rubber	Najaf	Najaf	1	1		
28	State Co. for Tires & Rubber	Diwania	Qadisiyah	3.5	7.5	1 3.5*	

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Category 2 Industrial Electrical Power Loads							
No.	Name	Location	Governorate	Minimum Requirement (MW)	Full Requirement (MW)	Allocated Capacity (MW)	Period (Year)
30	Co. for Ready						
	Mosul Plant	Mosul	Ninawa	2	0.5		
	Baghdad Plant	Baghdad	Baghdad	1	1		
	C) Anna Plant	Anna		0.5	0.5		
	Plant	Najaf	Najaf	2			
31	State Co.	Hilla	Babil				
	A) Main Plant	Hilla	Babil	5	5	5	5
	Starch Plant	Hilla	Babil	0.5	1		0.75
32	Co. for Leather						1*
	Works	Baghdad	Baghdad	1	1	1	2*
	Leather Treatment	Baghdad	Baghdad	2	2		0.75*
	C) Najaf Plant	Najaf	Najaf	0.5	1		
33	Co. for Battery						
	Wasiria Plant	Baghdad	Baghdad	2	2	1	2*
	Thary Plant	Baghdad	Baghdad	1.5	1.5	0.5	1.5*
	Dry Cell Plant	Baghdad	Baghdad	1.6	1.6		1.5*
34	General Co. for						
	A) Amin Plant	Baghdad	Baghdad		2	4	2*
	Mamoo	Baghdad	Baghdad		2		2*
	Rasheed Plant	Baghdad	Baghdad		2		2*
	Amara Plant	Amara	Maysan		2		2*
	E) Baiji Plant	Baiji	Salah Ad Din		2		2*
35	Co. for Dairy						
	Baghdad Plant	Baghdad	Baghdad		2	1	2*
	Diwania	Diwania	Qadisiyah		1	0.5	2*
	Mosul Plant	Mosul	Ninawa		1	1	2*
36	Sewari Plant	Baghdad	Baghdad	1	1		1*
	B) Rockwool Plant	Baghdad	Baghdad	1	1.5		1*
	C) Resins Plant	Taji	Baghdad	1	2.5		1*
	D) GRP & Fiber Glass Plant	Taji	Baghdad				1*
	E) That Al Sawari Plant	Taji	Baghdad	2	2		

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Category 2 Industrial Electrical Power Loads

No.	Name	Location	Governorate	Minimum Requirement (MW)	Full Requirement (MW)	Load on Peak Period (1700-2000) (MW)	Load on Peak Period (1900-2200) (MW)
37	Mishraq Sulfur	Mosul	Ninawa	2			
38	Medical Supplies	Samara	Ninawa	3	5		5*
39	Medical Supplies	Mosul	Ninawa	3	4		4*
40	Zawra Co.	Baghdad	Baghdad	2	5		
41	Co.	Baghdad	Baghdad	2	3		
		Habibia		3	5		
42	Sina Co.	Baghdad	Baghdad	3	5.5	1.5	2*
Totals				243.1	588.6	40.5	32.75

* Mean Power between 0800 - 1600

Remarks:

A) Priority Companies are marked with yellow color.

B) The total electrical power supplied before the month of Ramadan reached 290 MW (total power). During the month of Ramadan the supply dropped by 50%.

Appendix D: Procedures for requesting Electrical Power for Allocation to Industrial Consumers

In support of the Ministry of Industry and Minerals, the CPA will collect and review Category 2 and Category 3 industrial nominations, which will include the following:

1. Detailed startup plan
2. Proven ability to operate
3. Data supporting profitability
4. Local economic effects
5. Number of personnel employed
6. Local unemployment rate
7. Electrical load data

Please contact the CPA-Industry and Minerals at (b)(6) for further details

(b)(6)

Appendix E – Weekly Electrical Power Allocation Report

Compiled by the Ministry of Electricity for CPA review

Weekly Electrical Power Allocation Report					
Governorate reporting _____					
Week of _____					
Governorate reporting _____	Compulsory Load (MW)	Off Peak Industrial Load (MW)	On Peak Industrial Load (MW)	Residential/ Commercial Load (MW)	Residential/ Commercial Hours of Service
<i>Monday</i>					
<i>Tuesday</i>					
<i>Wednesday</i>					
<i>Thursday</i>					
<i>Friday</i>					
<i>Saturday</i>					
<i>Sunday</i>					

Appendix F

Field guide: How to correct power underallocation at the local level

Despite implementation of the July 2003 National Allocation plan, scattered instances of areas receiving fewer daily hours than their allocation have been discovered and corrected on a case-by-case basis. This pattern of scattered enforcement problems will likely continue. These problems should be solved at the local level by the following procedures:

1. Write down how the total number of hours of electrical service received in the area per day.
2. Compare the hours of electrical service with the schedule published weekly by the local electrical distribution company.
3. Contact your Governorate Distribution Manager in order to determine whether there is a technical problem. Contact information is listed in Table 3.
4. Request a copy of the load shedding plan/records for the area during the time period in question*. If large inequities in the distribution of residential electrical service are discovered, the Governorate Distribution Manager will correct the problem.
5. If electrical service is not restored to the level of the surrounding area within 4 days, the Regional Distribution Manager should be notified. The Regional Distribution Manager will be expected to resolve the problem within 3 days. **
6. Further resolution will require the assistance of the Electricity Office of CPA. The office can be contacted at ADD PSN. Note that CPA will require proof that both the Governorate and Regional Distribution Managers have not addressed the problem.
6. Periodically monitor the hours of electrical service to the area until service is restored to the same level as the surrounding area.

*Note that a technical problem will almost always lead to zero hours of power, not a few hours per day.

**Bringing these problems to the attention of the regional electricity Distribution Manager will likely correct the enforcement problem. Recurring allocation problems should be addressed through the CPA-Electricity office.

Table 3: Iraqi Power authorities by Governorate

Distribution Managers for Iraq					
Name	Position	City	Governorate	Local Telephone	Alt phone
<i>Northern Region</i>					
Mazin Abd Alwahed	Director General for the Northern Region	Mosul	Ninawa	060 778727	
Basher Hussain	Electricity Manager	Mosul	Ninawa	606 813121	

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Abd Alrahman Abd Oan	Electricity Manager	Tikrit	Salah Ad Din	021 823024	
Yalchin Mahdi Rashid	Electricity Manager	Kirkuk	At'Tamim	050 210545	
<i>East Northern Region</i>					
<i>Rasafa (Baghdad) Region</i>					
Nafaa Abdulsada Ali	Director General for Rasafa	Rasafa	Baghdad	8830037	
Jamal Latif	Electricity Manager	Rasafa	Baghdad	8830037	
<i>Karkh (Baghdad) Region</i>					
Tariq Ali Raheem	Director General for Karkh	Karkh	Baghdad	5567157	
<i>Middle Region</i>					
Ali Katia Jasim	Electricity Manager	Al Kut	Wasit	023 320828	023 323048
Abd Allatef Ebraheem Ali	Electricity Manager	Baquba	Diyala	025 532233	025 532897
Shokir Mahmud Ashor	Electricity Manager	Ramadi	Al Anbar	024 421687	024 420223
<i>Middle Euphrates Region</i>					
Aqeel Muhamd Hamadi	Director General for the Middle Euphrates Region	Al Hilla	Babil	030 223792	
Salim Hussain Ali	Electricity Manager	Karbala	Karbala	032 323633	
Abd Alkhliq Hassan	Electricity Manager	Al Hilla	Babil	030 221405	
Noaman Ali Ajina	Electricity Manager	An Najaf	An Najaf	033 364464	
Gani Abd Watban	Electricity Manager	Diwania	Qadisiya	036 602872	
<i>Southern Region</i>					
Motar Thamir Mohie	Director General for Southern Distribution	Al Basrah	Al Basrah	040 624620	040 619047
Yaagob Yousef	Electricity Manager	Bad Al Zubayr	Al Basrah	040 214831	
Fahim Mahmud	Electricity Manager	Samawa	Al Muthanna		
Muhamad Mutasher	Electricity Manager	Naseria	Dhi Qar	042 232633	
Muhamad Hashem	Electricity Manager	Al Amara	Maysan	043 313446	

ADD
FROM
EMAIL

Appendix G

Basrah Equal allocation plan

Al Basrah received less than 6 hours of residential electrical service prior to the 2003 conflict, while Baghdad received nearly 24 hours of electrical service per day. Residents adopted the view that most of the electrical power generated within the Governorate was sent to Baghdad. Many residents of the Governorate now believe that the electrical power generated within Al Basrah is a resource belonging solely to them. The 132 and 400 kV power transmission lines that were designed to transfer power out of the Governorate have been sabotaged on occasion, in order to hold on to the locally generated electrical power. Al Basrah has received nearly 24 hours of electrical service since Summer 2003, due these acts of sabotage. The first of two 400 kV transmission lines, enabling large quantities of power to be transferred out of Al Basrah, will be restored in March 2004. Coalition representatives believe that an immediate reduction in residential electrical service could result in anger toward the Coalition. Therefore, the allocation of electrical power to residents of Al Basrah will be gradually reduced from 24 to 15 hours over a two month period. The gradual reduction in electrical service will assist Coalition representatives in managing public perception. A regional media campaign will also be developed by MND-SE in order to assist with these efforts. The schedule for reducing electrical service to Al Basrah is provided in Table 4.

Table 4: Graduated Power equality Plan Timeline for Al Basrah

20MAR04	Hartha Kut Wassit 400 KV transmission line restored, enabling power to be exported from Basrah.
21MAR04	Basrah power allocation reduced from 24 hr/day to 22 hr/day
04APR04	Basrah power allocation reduced from 22 hr/day to 20 hr/day
18APR04	Basrah power allocation reduced from 20 hr/day to 18 hr/day
02MAY04	Basrah power allocation reduced from 18 hr/day to 16 hr/day
16MAY04	Basrah power allocation reduced from 16 hr/day to 15 hr/day*

*Note – Al Basrah will receive equal hours of residential and commercial electrical service in comparison to all other Governorates. The hours of electrical service are estimated to be approximately 14-16 hours per day, according to the 01 June 2004 projection of 6000 MW of available electrical power. Residential and commercial electrical service will be subject to daily fluctuations in power availability, as will all other Governorates. All Governorates will receive equal increases in hours of electrical service as the generation capacity of the Iraq continues to grow in accordance with the long-term CPA/Ministry of Electricity plan.

Appendix C – Category 2 Industrial Loads
(Pending Ministry of Industry input)

Category 2 Industrial Electrical Power Loads							
No.	Company Name	Province	Governorate	Maximum Demand (MW)	Maximum Demand (MW)	Maximum Demand (MW)	Load Factor (%)
8	Co. for Iron & Sponge	Khor Al-Zubair	Basrah				
	Lion	Khor Al-Zubair	Basrah	5	10		
	and Steel	Khor Al-Zubair	Basrah	20	190		
	Pipe Plant	Umm Qasr	Basrah	2	2		
9	Co. for Basrah Plant	Basrah	Basrah	4	8	1.7*	
	Amara Plant	Amara	Maysan	4	8	3*	
	Baghdad Plant	Taji	Baghdad	1	1	1.5*	
	Co. for Sugar						
10	Mosul	Mosul	Ninawa	4	4		
	Amara Plant	Amara	Maysan	4	4		
	Yeast Plant	Mosul	Ninawa	1.5	1.5	1	1
	Co. for Glass & Glass Plant	Ramadi	Anbar				
11	Ceramic Plant	Ramadi	Anbar	4	8	2.5	4
	C) Ramadi	Ramadi	Anbar	2	2		
		Ramadi	Anbar	2	2		
		Ramadi	Anbar	2	2		
12	Retrofitted	Fulljah	Anbar	2	2	0.5	1.5
	Co. for Constr						
13	Pipe Plant	Baghdad	Baghdad	2	2	2	2*
	Pipe Plant	Amara	Maysan	2	2		2*
	Brick Plant	Baghdad	Baghdad	2	2		2*
	Abunwas Plant	Baghdad	Baghdad	2	2		2*
	Steel Plant		Babil	2	2		2*
	Qadisia Plant	Diwania	Qadisiyah	2	2		2*
	Plant	Kut	Wasit	2	2		
	Concrete Poles	Mosul	Ninawa	0.75	0.75		
	Electric Poles	Baghdad	Baghdad	0.75	0.75		1*
	Plant	Baghdad	Baghdad	1	1		
	Nibail Quarry	Baghdad	Baghdad	1	1		
	Karbala	Karbala	Karbala	1	1		

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Category 2 Industrial Electrical Power Loads

No.	Name	Location	Governorate	Peak Demand (MW)	Efficiency (%)	Peak Period (1700-2400)	Peak Period (0000-1700)
14	Co. for Mechan A)	Iskandaria	Babil				
	Foundry			4	10	1.5*	
	Foundry and			2	6		
15	State Co. for Taji	Nasiriyah	Baghdad				
	Foundry	Taji	Baghdad	6	22	2.8*	
	B) Tool Plant	Taji	Baghdad	1.5	3		
	Structur es	Taji	Baghdad	1.5	3		
	D) Utilities	Taji	Baghdad	2	2		
16	Sumood Industri	Taji	Baghdad				
	Heavy			12	26		
	Continu ous			20	40		
	Heavy Forging			4	8		
	Closed Dd.			2	6		
	Galvani zed			1	1	1.6*	
	Structur es Plant			1	1		
	Overhe ad			1	1	2*	
17	State Co. Al	Kharthly	Baghdad	2	3	3.5*	
18	Adheem	Dura	Baghdad	3	10		
19	Co. for Bulb Plant	Baghdad	Baghdad	1.5	1.5	1.1.5*	
	Wasirna Plant	Baghdad	Baghdad	2	8	3*	
20	Qadisiy a Co.	Diyala	Diyala	5	10	2.4*	
	Distribut ion	Diyala	Diyala		2		
	Power Transfo	Diyala	Diyala		2		
	Ceiling	Diyala	Diyala		2		
	Electric Meters	Diyala	Diyala		1		
	Steam	Diyala	Diyala		1		
	Optic	Diyala	Diyala		1		
	G) Argon Plant						
	Overhe ad						
	Cranes Plants				1		

90 MW
100

Also
Rotary Forging
Plant not in Germany
Pins for // did not
ship due to embargo

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Category 2 Industrial Electrical Power Loads

No.	Entity	Location	Subsector	Minimum Requirement (MW)	Maximum Requirement (MW)	Load on Peak Period (1700-2400) (MW)	Load on Peak Period
21	Co. for Enginee	Nasseriya	Dhi Qar		4		10
	Aluminu m Plant			3	8	2	
	Cable Plant			3	8		
22	Compa ny for	Iskandaria	Babil	2	3		1*
	Plant			1	2		
	Engine Plant			1	1		
	Baghda d						
23	Nissan 17 April Emblem Plant	Baghdad	Baghdad				
	Aluminu	Baghdad	Baghdad	1			
	Precisio n	Baghdad	Baghdad	2			
	Sign Plant	Baghdad	Baghdad	1			
	Co. for Woolen	Baghdad	Baghdad				
24	A) Teji Plant	Taji	Baghdad	2.5	2.5	1	2*
	B) Carpets	Taji	Baghdad	2	2	1	2*
	Nassen ya Plant	Nasseriya	Dhi Qar	5	5		
	Compa ny for						
25	Medical Cotton	Baghdad	Baghdad	2	2	2	1.5*
	Baghda	Baghdad	Baghdad	3	6		2*
	Mosul Plant	Mosul	Ninawa	3	6		4*
	Diwania Plant	Diwania	Qadisiyah	3.5	7		4*
	Kirkuk Plant	Kirkuk	At'Tamim	4	4		2*
	Co. for Textile	Hilla	Babil	3	6	1	3
26	Co. for Textile	Hilla	Babil	3.5	7	1	4
28	Co. for					2	3.5
	A) Main Plant	Najaf	Najaf	3	7.5		
	Rubber	Najaf	Najaf	1	1		
	Rubber	Najaf	Najaf	1	1		
29	State Co. for Tires & Rubber	Diwania	Qadisiyah	3.5	7.5	1	3.5*

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Category 2 Industrial Electrical Power Loads

30	Co. for Ready						
	Mosul Plant	Mosul	Ninawa	2	0.5		
	Baghdad Plant	Baghdad	Baghdad	1	1		
	C) Anna Plant	Anna		0.5	0.5		
	Plant	Najaf	Najaf	2			
31	State Co.	Hilla	Babil				
	A) Main Plant	Hilla	Babil	5	5	5	5
	Starch Plant	Hilla	Babil	0.5	1		0.75
32	Co. for Leather						1*
	Works	Baghdad	Baghdad	1	1	1	2*
	Leather						
	Treatme	Baghdad	Baghdad	2	2		0.75*
	C) Najaf Plant	Najaf	Najaf	0.5	1		
33	Co. for Battery						
	Wasiria Plant	Baghdad	Baghdad	2	2	1	2*
	Thary Plant	Baghdad	Baghdad	1.5	1.5	0.5	1.5*
	Dry Cell Plant	Baghdad	Baghdad	1.6	1.6		1.5*
34	General Co. for						
	A) Amin Plant	Baghdad	Baghdad		2	4	2*
	Marmoo	Baghdad	Baghdad		2		2*
	Rashee d Plant	Baghdad	Baghdad		2		2*
	Amara Plant	Amara	Maysan		2		2*
	E) Baiji Plant	Baiji	Salah Ad Din		2		2*
35	Co. for Dairy						
	Baghdad Plant	Baghdad	Baghdad		2	1	2*
	Diwania	Diwania	Qadisiyah		1	0.5	2*
	Mosul Plant	Mosul	Ninawa		1	1	2*
36	Sawari Plant	Baghdad	Baghdad	1	1		1*
	B) Rockwool Plant	Baghdad	Baghdad	1	1.5		1*
	C) Resins Plant	Taji	Baghdad	1	2.5		1*
	D) GRP & Fiber Glass Plant	Taji	Baghdad				1*
	E) That Al Sawari Plant	Taji	Baghdad	2	2		

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Category 2 Industrial Electrical Power Loads

37	Mishraq Sulfur	Mosul	Ninawa	2			
38	Medical Supplies	Samara	Ninawa	3	5		5*
39	Medical Supplies	Mosul	Ninawa	3	4		4*
40	Zawra Co.	Baghdad	Baghdad	2	5		
41	Co.	Baghdad	Baghdad	2	3		
		Habibia		3	5		
42	Sina Co.	Baghdad	Baghdad	3	5.5	1.5	2*
Totals				243.1	588.6	40.5	32.75

* Mean Power between 0800 - 1600

Remarks:

A) Priority Companies are marked with yellow color.

B) The total electrical power supplied before the month of Ramadan reached 290 MW (total power). During the month of Ramadan the supply dropped by 50%.

Appendix D: Procedures for requesting Electrical Power for Allocation to Industrial Consumers

In support of the Ministry of Industry and Minerals, the CPA will collect and review Category 2 and Category 3 industrial nominations, which will include the following:

1. Detailed startup plan
2. Proven ability to operate
3. Data supporting profitability
4. Local economic effects
5. Number of personnel employed
6. Local unemployment rate
7. Electrical load data

Please contact the CPA-Industry and Minerals at 318.239.8108 or 381.239.7108 for further details

Appendix E – Weekly Electrical Power Allocation Report

Compiled by the Ministry of Electricity for CPA review

Weekly Electrical Power Allocation Report					
Governorate reporting _____					
Week of _____					
Governorate reporting _____	Critical Infrastructue Load (MW)	Off Peak Industrial Load (MW)	On Peak Industrial Load (MW)	Residential/ Commercial Load (MW)	Residential/ Commercial Hours of Service
<i>Monday</i>					
<i>Tuesday</i>					
<i>Wednesday</i>					
<i>Thursday</i>					
<i>Friday</i>					
<i>Saturday</i>					
<i>Sunday</i>					

Appendix F

Field guide: How to correct power underallocation at the local level

Despite implementation of the July 2003 National Allocation plan, scattered instances of areas receiving fewer daily hours than their allocation have been discovered and corrected on a case-by-case basis. This pattern of scattered enforcement problems will likely continue. These problems should be solved at the local level by the following procedures:

1. Write down how the total number of hours of electrical service received in the area per day.
2. Compare the hours of electrical service with the schedule published weekly by the local electrical distribution company.
3. Contact your Governorate Distribution Manager in order to determine whether there is a technical problem. Contact information is listed in Table 3.
4. Request a copy of the load shedding plan/records for the area during the time period in question*. If large inequities in the distribution of residential electrical service are discovered, the Governorate Distribution Manager will correct the problem.
5. If electrical service is not restored to the level of the surrounding area within 4 days, the Regional Distribution Manager should be notified. The Regional Distribution Manager will be expected to resolve the problem within 3 days. **
6. Further resolution will require the assistance of the Electricity Office of CPA. The office can be contacted at _____. Note that CPA will require proof that both the Governorate and Regional Distribution Managers have not addressed the problem.
6. Periodically monitor the hours of electrical service to the area until service is restored to the same level as the surrounding area.

*Note that a technical problem will almost always lead to zero hours of power, not a few hours per day.

Table 3: Iraqi Power authorities by Governorate

Distribution Managers for Iraq					
Name	Position	City	Governorate	Local Telephone	Alt phone
<i>Northern Region</i>					
Mazin Abd Alwahed	Director General for the Northern Region	Mosul	Ninawa	060 778727	
Basher Hussain	Electricity Manager	Mosul	Ninawa	606 813121	
Abd Alrahman Abd Oan	Electricity Manager	Tikrit	Salah Ad Din	021 823024	
Yalchin Mahdi Rashid	Electricity Manager	Kirkuk	At'Tamim	050 210545	

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<i>East Northern Region</i>					
<i>Rasafa (Baghdad) Region</i>					
Nafaa Abdulsada Ali	Director General for Rasafa	Rasafa	Baghdad	8830037	
Jamal Latif	Electricity Manager	Rasafa	Baghdad	8830037	
<i>Karkh (Baghdad) Region</i>					
Tariq Ali Raheem	Director General for Karkh	Karkh	Baghdad	5567157	
<i>Middle Region</i>					
Ali Katia Jasim	Electricity Manager	Al Kut	Wasit	023 320828	023 323048
Abd Allatef Ebraheem Ali	Electricity Manager	Baquba	Diyala	025 532233	025 532897
Shokir Mahmod Ashor	Electricity Manager	Ramadi	Al Anbar	024 421687	024 420223
<i>Middle Euphrates Region</i>					
Aqeel Muhamd Hamadi	Director General for the Middle Euphrates Region	Al Hilla	Babil	030 223792	
Salim Hussain Ali	Electricity Manager	Karbala	Karbala	032 323633	
Abd Alkhilq Hassan	Electricity Manager	Al Hilla	Babil	030 221405	
Noaman Ali Ajina	Electricity Manager	An Najaf	An Najaf	033 364464	
Gani Abd Watban	Electricity Manager	Diwania	Qadisiya	036 602872	
<i>Southern Region</i>					
Motar Thamir Mohie	Director General for Southern Distribution	Al Basrah	Al Basrah	040 624620	040 619047
Yaagob Yousef	Electricity Manager	Bad Al Zubayr	Al Basrah	040 214831	
Fahim Mahmod	Electricity Manager	Samawa	Al Muthanna		
Muhamad Mutasher	Electricity Manager	Naseria	Dhi Qar	042 232633	
Muhamad Hashem	Electricity Manager	Al Amara	Maysan	043 313446	

Appendix G

Basrah Equal allocation plan

Al Basrah received less than 6 hours of residential electrical service prior to the 2003 conflict, while Baghdad received nearly 24 hours of electrical service per day. Residents adopted the view that most of the electrical power generated within the Governorate was sent to Baghdad. Some residents of the Governorate now believe that the electrical power generated within Al Basrah is a resource belonging solely to them. The 132 and 400 kV power transmission lines that were designed to transfer power out of the Governorate have been sabotaged on occasion, in order to hold on to the locally generated electrical power. Al Basrah has received greatly increased hours of electrical service since Summer of 2003, due to these acts of sabotage. The first of two 400 kV transmission lines, enabling large quantities of power to be transferred out of Al Basrah, will be restored in March 2004. Coalition representatives believe that an immediate reduction in residential electrical service could result in anger toward the Coalition. Therefore, the allocation of electrical power to residents of Al Basrah will be gradually reduced to an estimated 18 hours over a two month period. The gradual reduction in electrical service will assist Coalition representatives in managing public perception. A regional media campaign will also be developed by MND-SE in order to assist with these efforts. The schedule for reducing electrical service to Al Basrah is provided in Table 4.

Table 4: Approximate timeline: Al Basrah graduated power equality plan

20MAR04	Hartha Kut Wassit 400 KV transmission line restored, enabling power to be exported from Basrah.
21MAR04	Basrah power allocation reduced from 24 hr/day to 22 hr/day
04APR04	Basrah power allocation reduced from 22 hr/day to 20 hr/day
18APR04	Basrah power allocation reduced from 20 hr/day to 18 hr/day*

*Note – Residential and commercial electrical service in Basrah will be subject to daily fluctuations in power availability, as will all other Governorates. All Governorates will receive equal increases in hours of electrical service as the generation capacity of the Iraq continues to grow in accordance with the long-term CPA/Ministry of Electricity plan.

Iraqi National Electrical Power Allocation Policy

Coalition Provisional Authority

Ministry of Electricity

1 April 2004

Executive Summary

Ambassador Bremer directed that Iraq's electrical power will be distributed in a fair and equitable manner. Existing infrastructure lacks the capacity to meet all national electrical power needs. Concurrent with scheduled long-term projects that will increase the available power supply over a period of several years, an interim policy is required to address the competing and growing power needs of this nation. The following summarizes the Iraqi electrical power allocation policy.

I. PRIORITIES:

- Priority of supplied electrical power is as follows:
 - (1) Critical Infrastructure: Includes essential service facilities such as hospitals, water/wastewater treatment, essential government, and law enforcement.
 - (2) Industry: Includes state-owned and private industry essential to a growing national economy, as agreed upon by the Ministry of Industry and Minerals, the Ministry of Electricity, and the CPA
 - (3) All others: Includes residential consumers, commercial business, agriculture, non-essential government facilities, and all others not listed above.

II. ALLOCATION:

- Priority (1) facilities are allocated 24-hour, continuous power service
- Priority (2) facilities will be provided electrical service 0000-1700 daily, or some fraction thereof, depending on their business plan as approved by the Ministry of Industry, Ministry of Electricity, and the CPA.
- Priority (3) facilities will be governed by a systematic and fair method of power delivery, in order to equally distribute limited electricity resources among all residential, commercial, and agricultural consumers. These controlled on/off power schedules, based on the total daily amount of power available, will be synchronized at both national and local levels to ensure fairness and equality nationwide.

III. ENFORCEMENT:

- The Ministry of Electricity and its employees are the sole authority responsible for electrical production and distribution in Iraq. The Ministry of Electricity assumes complete responsibility for the management and allocation of electrical power.
- Deliberate acts to stop electrical power from reaching the population are crimes that harm the health and welfare of the Iraqi population. Stopping these criminal activities will occur only as a result of Ministry of Electricity, Iraqi Police Forces, Coalition Forces, and tribal/ community leader cooperation. All persons have the responsibility to report any attempt to interrupt, destroy, corrupt or stop the production and distribution of electrical power to the appropriate authorities.

IV. THE WAY FORWARD: IMPLEMENTATION AND INFORMATION OPERATIONS

- This policy will be reviewed in the coming months, and is expected to be implemented by April 1, 2004. Consultation among Iraqi leaders at the municipal and governorate levels, the emerging private sector leaders, and the Ministry of Electricity will become a practice to create policies which most effectively balance all needs.
- Distribution Companies in each Governorate belonging to the Ministry of Electricity will publish the predicted hours of residential/commercial service to the public in each City/Governorate both weekly and daily. These publications will be adjusted based upon predicted available electrical power and the status of the electrical grid. Implementation of this plan will result in a more predictable power schedule for Iraqi citizens.
- The Ministry of Electricity, Strategic Communications, and the Iraqi Media Network will promptly inform users of scheduled outages and emergency outages including an anticipated time of restoration to establish predictability.

*** Intent of the Power Allocation Policy ***

Electrical power is a nationally owned asset that is to be distributed equally amongst residents, while providing for vital infrastructure and the growing needs of the national economy. This policy is intended as a temporary means for managing the available electrical power until the electrical infrastructure is capable of meeting the needs of the entire country. The policy outlined within this document will be re-evaluated in June 2004 by the CPA and Ministry of Electricity, to ensure appropriate support for the national Transfer of Authority (TOA).

1 Electrical Service Priorities and Allocation

Present Iraqi power infrastructure supplies only a portion of national demand. Given the present situation, the following sections define national consumer group categories, prioritize national electric service demands, and summarize national and local allocation plans.

1.1 Defining Consumer Groups

The demand for electrical power can be categorized into three separate consumer groups. These groups are 1) Vital Health services and Critical Infrastructure supporting essential services 2) Industry 3) All other consumers including residential, commercial, agricultural, and non-essential governmental consumers. *Table 1* below describes the hours of electrical service allocated to each consumer group.

Table 1: Electrical Service provided to each Consumer Group

Consumer Group	Electrical Service
Critical Infrastructure	24 Hours of service 7 days per week
Essential Industry	0000-1700 (agreed upon power)* 1700-2400 (minimum "stand-by" power only)
Residential and Commercial	Cyclical, scheduled rolling blackouts**

*Power supplied for full production while operating at the approved electrical consumption rate as described in section 1.1.2. Production will be halted from 1700 to 2400, and minimal power will be supplied to maintain machines in "stand-by" mode.

**Rolling blackouts are due to "Load Shedding"; a process by which areas have their power turned on and off for a few hours at a time, in a controlled and synchronized manner to ensure nationwide equality. *Appendix A* provides a detailed explanation of load shedding.

1.1.1 Priority 1: Critical Infrastructure Defined

Critical infrastructure facilities include hospitals, primary water and sewage treatment facilities, prisons, and buildings that are critical to daily governmental operations.

1.1.1.1 Critical Infrastructure Allocation: Background and Facts

A list of the specific critical infrastructure facilities in each Governorate can be obtained from the Electrical Distribution Company in the respective Governorate. These facilities are connected to the electrical grid via emergency 33 and 11 kV electrical feeder lines. These feeder lines will remain energized 24 hours per day 7 days per week, except in the infrequent event of a national or regional blackout.

Note that the majority of electrical feeder lines connecting critical infrastructure facilities to the electrical grid also supply neighboring residential areas. Therefore, a limited number of households will benefit by their proximity to critical infrastructure, and will not be subject to "Load Shedding".

1.1.2 Priority 2: Industry Defined

The Ministry of Industry and Minerals, the Ministry of Electricity, and the CPA divided the Iraqi industrial sector into 3 categories:

Category 1: Factories producing goods critical to the economic survival of Iraq.

Category 2: Factories that are not considered critical to supporting the infrastructure of Iraq, but are currently operating and consuming power.

Category 3: Factories that are not considered critical to supporting the infrastructure of Iraq and are not currently operating and/or consuming power.

1.1.2.1 Essential Industry Allocation: Background and Facts

Category 1: The Coalition Provisional Authority defines category 1 industrial plants to be those producing goods critical to the economic survival of Iraq. These facilities include cement, petrochemical, fertilizer, chemical production, as well as those supporting electrical power, oil, construction, and agricultural industries. Category 1 facilities have been proven to produce goods and/or services more cost effectively than can be imported.

The post-war cost of importing materials produced by category 1 industries is estimated to be in the 10's of millions of dollars. For instance, a bill of 22 million USD was recently paid to import fertilizer, while the nation's two fertilizer production facilities lay dormant due to a lack of electrical power.

Category 1 industries will be allocated enough electrical power to enable them to operate at maximum capacity due to the demand for these materials. Category 1 industrial sites are listed in Appendix B. The total electrical load consumed by the category 1 industrial sites as of February 2004 during "Off Peak residential demand" hours was 197 MW. Allocating an additional 212 MW will provide for full present-day production capabilities.

Category 2: Many factories, not considered critical to supporting the infrastructure of Iraq, have nonetheless been restarted in recent months. These factories are known as category 2 industrial sites. Some of these factories have been determined to be economically viable, while others have been determined to be unable to compete in a free and open market.

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All Category 2 factories will continue to receive their current electrical allocation in order to prevent creating any additional unemployment. However, any additional allocation of electrical power to these industrial sites will be subject to an agreement between the Coalition Provisional Authority, Ministry of Electricity, and the Ministry of Industry and Minerals. The total power provided to Category 2 industrial sites for production during "Residential off-peak" hours is 147 MW (as of January 2004). Category 2 factories that were operating as of February 2004 are listed in *Appendix C*.

Category 3: Factories not currently in operation and judged to have potential for positive local/national economic stimulus and/or job creation will be considered for Category 3 priority allocation. In order to balance the needs of residents with the needs of industry, no additional factories will be started without petitioning the Ministry of Industry, Ministry of Electricity, and the Coalition Provisional Authority. Factories petitioning for electrical power will be required to prove their ability to operate, remain profitable, and stimulate local economies. Under special circumstances, factories will be able to receive electrical power solely based upon the number of personnel employed and the rate of local unemployment. Specific instructions for requesting the allocation of electrical power to an industrial site are provided in *Appendix D*.

1.1.2.2 Conditions for maintaining industrial power allocation

Once allocated electrical power, factories will have an assurance from the Ministry of Electricity that the allocated power will not be taken away, except under the following two exceptional conditions:

- Priority (3) residential service falls below 5 hours per day for 7 consecutive days.
- Priority (3) residential service falls below 7 hours per day for 10 consecutive days.

At either trigger point, priority usage will shift from Priority (2) industrial to Priority (3) residential and commercial consumers until such time that normal power conditions are restored.

1.1.2.3 Justification for dedicated industrial allocation

A portion of the available electrical power must be allocated to support the industrial sector, both for the long-term economic health and the immediate security posture of Iraq.

Unemployment data is of particular relevance from the July 1 Transfer of Authority through the end of 2004, during which time hundreds of thousands of Iraqi public sector jobs may be phased out. The CPA Private Sector Development office estimated unemployment rates at approximately 22-28% of the population of Iraq in December 2003. However, the calculated rates of unemployment accounted for many jobs that no longer exist, such as those individuals formerly working in the military sector or at factories that have been damaged beyond repair. The percentage of the population that will be categorized as unemployed or underemployed could increase to as high as 50% if the government of Iraq does not continue to pay these salaries. High unemployment rates have already led to problems in several Iraqi Governorates (Maysan, Wasit), and historically have led nations to catastrophic instability.

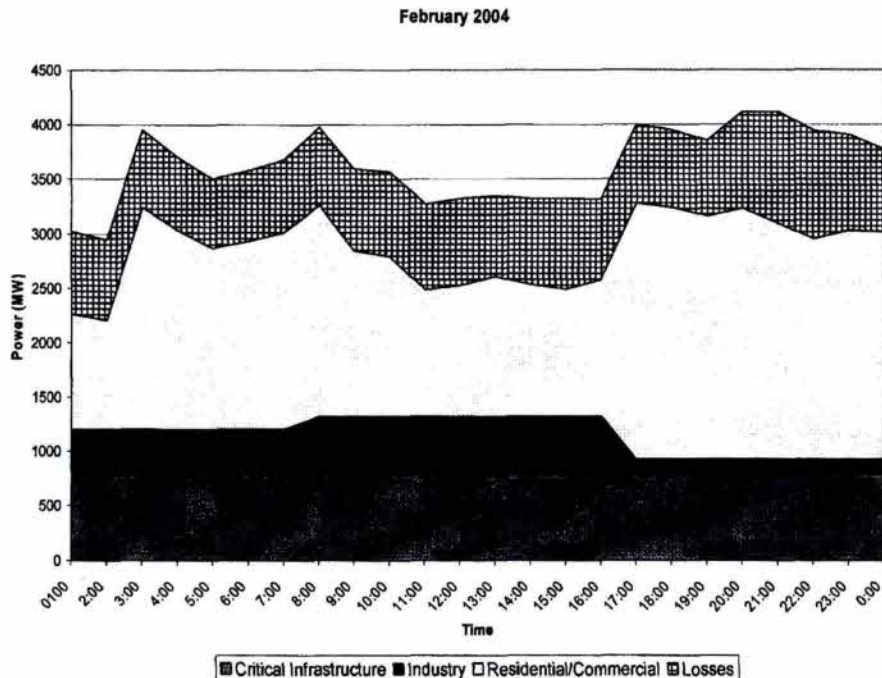
1.1.3 Priority 3: Residential, Commercial, Agricultural and all others defined

Residential and Commercial consumers include all dwellings, all businesses not defined in the national industrial categories, agricultural consumers, and all other non-essential public services not defined as critical infrastructure.

1.1.3.1 Residential, Commercial, and Agricultural Allocation: Background and Facts

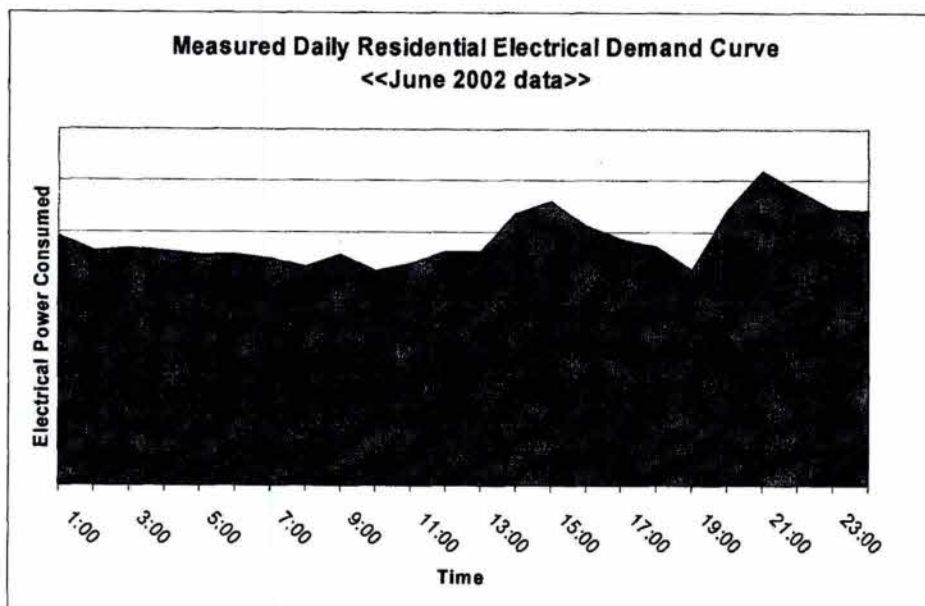
Residential power allocation plans are based on analysis of 2003 data provided by the Ministry of Electricity. Graphically shown in Figure 1, this data displays daily power consumption separated into the 3 defined consumer groups. Based upon data measured from Iraq's daily load curve, industrial priority is warranted from 0000 to 1700, and residential priority from 1700 to 2400. This system has been determined to be relatively successful, once proper tracking and enforcement mechanisms were established.

Figure 1: Iraq's typical daily load curve



The period of greatest demand for electrical power is different for each Consumer group. As shown in Figure 1, the electrical demand of Critical Infrastructure facilities remains relatively constant throughout the day. Further data shows Critical Infrastructure demand is generally unaffected by seasonal changes. Therefore, little change to the Critical Infrastructure allocation is required throughout the year. Industrial demand is greatest during daylight hours. Residential and Commercial demand is greatest in the late afternoon and evening, as shown in Figure 2. The peak demand periods will be balanced in order to meet the needs of each consumer group.

Figure 2: Iraq's daily residential demand



Note in *Figure 2* that the average residential consumption from 0000 to 1700, the peak period of industrial demand, is 25% lower than the 1900 daily residential peak. Prioritizing industry during the hours of low residential demand, and residential/commercial areas in hours of low industrial demand, enables maximum usage of available power resources throughout the entire day.



1.2 Projecting Residential, Commercial, and Agricultural Allocation:

The Iraqi National Power Allocation policy released in July 2003 was established for the purpose of supplying a uniform amount of daily electrical service, generally between 10 and 12 hours per day, to all residential consumers across Iraq. Between March and July 2004, the quantity of electrical power generated in Iraq is expected to increase nearly 50% from an average of 4,100 MW to over 6,000 MW. All of the newly supplied power available after meeting the needs of critical infrastructure and any designated industrial sites is earmarked for residential and commercial consumers.

Residential demand has grown to a yet undetermined amount due in part to the increased number of white goods (air conditioners, televisions, etc.) that have entered Iraq since the end of the embargo. Illegal electrical connections, commonly known as "taps", further complicate projecting accurate residential demand data.

In the absence of measurable and current residential and commercial consumer data, future allocations will be based upon the historic electrical demand as provided by the Iraqi National Distribution and Control center, adjusted for daily power availability. This historical data, designed to provide each Governorate with an equal number of daily power-hours, forms the Governorate allocation plan listed in *Table 3*.

Table 3: Electrical Power Allocations per Governorate

Governorate	Priority (1): Critical Infrastructure (mandatory) (MW)	Priority (2): Industrial load as of FEB 04 (MW)	Priority (3): % of available daily power allocated to priority (3) consumers (MW available varies daily)
<i>Baghdad</i>	196	52	<div style="text-align: center;">  All remaining available power will be distributed to provide equal hours of residential/commercial electrical service throughout all of Iraq  </div>
<u>Central region</u>			
<i>Wasit</i>	26	0	
<i>Kerbala</i>	33	20	
<i>Najaf</i>	31	15	
<i>Babil</i>	22	19	
<i>Kadasya</i>	11	12	
<i>Diyala</i>	27	4	
<i>Anbar</i>	32	34	
<i>Total</i>	182	104	
<u>Northern region</u>			
<i>Nynawa</i>	110	65	
<i>Tamem</i>	90	19	
<i>Salah Al Deen</i>	63	9	
<i>Dohok</i>	0		
<i>Total</i>	263	93	
<u>Southern region</u>			
<i>Dhi Qar</i>	22	10	
<i>Muthanna</i>	10	23	
<i>Basrah</i>	95	37	
<i>Mysan</i>	9	7	
<i>Total</i>	136	77	
<i>National total</i>	777	326	

1.3 Exceptions circumstances for temporary power allocation increase

The Ministry of Electricity and the CPA have joint authority to provide for temporary increases in power allocation that directly support national strategic interests. Criteria for a policy exception will normally include a combination of the following: extreme weather conditions, fuel shortages, a sharp increase in local unemployment, temporary regional population expansion beyond local law enforcement capabilities, local governmental crisis, or broad social unrest.

The yearly Ashoura, in which hundreds of thousands of non-residents visit the Karbala and Najaf Governorates, is one such exception. The increase in population leads to a sharp increase in hour-by-hour peak electrical consumption. The overriding Iraqi strategic national interest of supporting Iraqi and Coalition efforts to maintain good order and discipline qualifies Ashoura as an exceptional condition meriting temporary increased power allocation. Requests for a temporary increase in electrical service can be submitted through either the CPA or the Ministry of Electricity.

2.1 Implementation, Enforcement, and Information Operations

The Ministry of Electricity is the sole authority responsible for tracking and enforcing the allocation of electrical power between the electrical transmission and distribution companies. Employees determined to be deliberately interfering with the equal allocation of electrical power will be subject to disciplinary actions to include reduction in pay, loss of employment, or legal action.

The Iraqi National Distribution and Control Center (DCC) monitors and adjusts electricity at a national level to ensure equal allocation. The Regional Manager (RM) monitors and adjusts power at a Governorate level to ensure equal allocation. The Director General of Electrical Distribution (DGED) in each city depends on accurate and timely information from the DCC in order to ensure equal allocation at the neighborhood level.

Based on daily generation availability and demand projections, the DCC will send each RM and DGED a daily, nationwide average of priority (3) electricity availability. With this information, the DGED will provide timely information to Iraqi citizens. The DCC will be held responsible for supplying power in accordance with their predictions to each Governorate, with acceptable accuracy being plus or minus 1.5 hours. Factors such as fluctuating weather and fluctuating demand make plus or minus 1.5 hours a challenging, but achievable standard.

An example of this plan is as follows: The DCC projects generation availability for the following day. Based on this information, the DCC provides "tomorrow's priority (3) average power hours" to all RMs, DGEDs, and to the CPA. As an example, the DCC may publish tomorrow's nationwide power availability to be 14 hours. From that, DGEDs modify tomorrow's load shedding plan to accommodate 14 hours of power throughout their city. Iraqi residential, business, etc. can plan ahead accordingly.

Based on their own predictions of 14 hours for example, The DCC will be held accountable for sending each Governorate between 12.5 and 15.5 hours of power, with a target of 14. RMs will be held responsible for distributing power evenly through each city in their area of responsibility, plus or minus 1.5 hours relative to the actual power supplied by the DCC. DGEDs will be held responsible for distributing power evenly through each neighborhood in their area of responsibility, plus or minus 1.5 hours relative to the actual power supplied by the RMs

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The DCC will also publish a weekly report containing the predicted hours of electrical service per day for the forthcoming week to RMs, DGEDs, and the CPA. Based on this data, the DGED in each city will also be required to publish a weekly report containing the predicted hours of priority (3) electrical service per day for the forthcoming week, incidents resulting in reduced service during the previous week, and future events that could result in significant changes in residential service. Additionally, information regarding residential and commercial areas expected to be without service for extended periods of time will be included in the report. Local newspapers, television, and radio are all considered acceptable formats for the release of this information. This policy is intended to develop public trust in the equal allocation of electrical power, while encouraging local electrical employees to be more responsive to the needs of the public.

The Ministry of Electricity will be expected to compile a report each week identifying the Critical Infrastructure Load, Industrial Load, Residential/Commercial Load, and average Hours of residential service. This report will be presented to representatives of CPA each week. The expected format for this report is provided in *Appendix E*.

2.2 Electrical power misallocation: Ministry of Electricity procedures

The Ministry will publish the format for documentation of allegations of misallocation or other improper behaviour on the part of Ministry employees or others. The Ministry shall establish the formal process for submission and forwarding these reports to the DG of Distribution in the Governorate concerned. The Governorate DG of Distribution will be required to determine, the truth or facts underlying such documented reports and forward these to the DG for Distribution at the Ministerial level for action as appropriate. If the Governorate level is, for whatever reason, deemed incapable of a fair and impartial decision regarding such reports, then the Ministry will take such action as deemed proper under the established procedures.

In any case where there is an allegation of criminal conduct on the part of anyone involved in submitted reports of misconduct, the Ministry personnel receiving the report shall forward that report to the appropriate Ministry of Justice representatives for action. In any instance where there is a dispute over the propriety of the Ministry's actions, or the actions of its subordinate organizations, in these instances, the Ministry shall forward such reports to the Ministry of Justice for review and action as appropriate. Each person making any allegation concerning misuse, misappropriation, diversion, interruption or like conduct on the part of Ministry of Electricity personnel regarding electric service under this policy shall have the right, within the laws of the Nation of Iraq, to any legal recourse similar to other situations regarding governmental misconduct, irrespective of the actions of the Ministry.

3.1 The Way Forward:

Present and forward-looking demand estimates have proven to be a significant challenge, and nearly impossible to predict in the long-term. The removal of the embargo and the number of new homes connected to the electrical grid since the end of the 2003 conflict have dramatically increased the demand for electricity in Iraq. Therefore, a measurement of the actual demand in Iraq will need to be conducted in June 2004. During this period, each Governorate will be provided enough electrical power to meet their respective full demands for a 24 hour period. This study will occur over 16 days; one day for each Governorate. The electrical consumption recorded throughout this period will be used to develop an accurate picture of what the demand will be in the coming year. This method of determining demand will be used every 12 months until Iraq is able to generate more electrical power than it consumes. Note that this method of determining demand was proven to be a relatively accurate after it was implemented in 1998.

This policy will be reviewed in the coming months, and is expected to be implemented by April 1, 2004. Consultation among Iraqi leaders at the municipal and governorate levels, the emerging private sector leaders, and the Ministry of Electricity will become a practice to create policies which most effectively balance all needs.

Appendix A:

Load shedding: Theory and application

NECESSITY OF LOAD-SHEDDING:

Iraq is currently unable to generate enough electrical power to meet the electrical demands of the country; therefore, a system of controlled "load shedding" has been established.

Load shedding is only needed when an electrical system is overloaded. In other words, a load shedding plan must be executed in order to divide power among consumers when electrical supply cannot keep up with electrical demand. If under present demand conditions all power lines in Iraq were energized simultaneously, within seconds and in an uncontrolled manner, massive and random outages would occur accompanied by millions of dollars worth of permanent system damage. This would result in total power loss across widespread areas for days to weeks.

Load shedding by contrast provides a safe, controlled, and equitable manner of distributing limited electrical power resources. The total amount of generated power is calculated at a national level daily and communicated to local electrical power authorities. The local power authorities then create a coordinated plan for ensuring that the maximum amount of available power is consumed without exceeding the supply at any given moment during the day. "Substation" engineers then execute this synchronized plan during the day according to their prescribed timeline.

ON-THE-GROUND PROCEDURES:

A substation is a collection of large electrical devices, normally contained in fenced areas or inside buildings with large underground cable or overhead wires coming in from one or more directions. Common fixed substation devices include transformers, circuit breakers, switches, metering equipment, and relaying equipment. The substation controls power to the local community, and is the physical place where load shedding is controlled at the local level. Substation workers will open or close large circuit breakers which turn off or on electrical power to up to thousands of customers with one switch. It is common in Iraq to have 2 substation workers at each substation at any given time. These workers open and close these breakers on a set schedule. Opening or closing a breaker operating at these high voltages makes a loud and distinctive noise. Coordinating the on/off schedule of these breakers is referred to as implementing a "load shedding plan".

Since load shedding is the critical process in implementing the national allocation plan, substation workers maintain a log of when each breaker was open or closed. Substation breaker on/off records are available that indicate which breaker provides electrical power to each business, industrial complex, home etc. Securing substation records is a critical initial step toward identifying allocation problems within your area of operations.

***Substations have exposed, non-insulated, and energized pieces of equipment carrying up to 400,000 volts, which can kill or maim in a fraction of one second. Those who are not professionally trained in substation safety operations should under no circumstances enter a substation.*

EXCEPTIONS TO LOAD SHEDDING POLICY:

Loss of power to factories can lead to restarting delays ranging from hours to multiple days. Critical Infrastructure facilities cannot be switched on and off due to the dependency of the overall population upon these facilities. Therefore, load shedding is applied only to residential, commercial, and agricultural consumers.

6 July 2004

TO: (b)(6) MNF-I Protection Officer

FROM: USCENTCOM Joint Security Directorate (Forward)

SUBJECT: Vulnerability Assessment of the Ministry of
Industry and Minerals' Residence

Advisory

Commanders have an inherent responsibility to provide for the security of their command. This responsibility includes planning, equipping, training, exercising, and executing adequate Antiterrorism/Force Protection (AT/FP) measures. Joint Security Directorate's vulnerability assessments are professional estimates that assist commanders in identifying resource protection requirements and suggest procedural enhancements that require specific actions by the commander to reduce or mitigate vulnerabilities. These recommendations in no way guarantee complete protection from either future terrorist attacks or any other form of hostile action. Commanders retain full responsibility for their installation's AT/FP plans and programs.

Executive Summary

The United States Central Command (USCENTCOM) Joint Security Directorate (JSD) (Forward) conducted a vulnerability assessment of the Minister of Industry and Minerals' residence located at 38SMB 40375 83730 (MGRS), on 6 July 2004. The residence is a well-maintained multi-story structure inside the walled Al Kadissiya compound. The compound is located in an upscale neighborhood just southwest of the 'Green Zone.'



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Although the neighborhood is in disrepair, it is still quite affluent. Until recently, the compound was the home to large number of the Iraqi Governing Council members.

The residence is surrounded by a road and an open field to the west, an open field and the perimeter of the Al Kadissiya Compound (approximately 45 meters) to the north, and two unknown residences to the east and south.

There is no key terrain in the immediate area, but there are numerous manmade structures nearby that could afford an advantage to attackers. The nearest key terrain is the Tigris River that forms the border to the overall compound on the south.

The assessment team spoke with Mr. Nashet Mahdi, the minister's brother and head of security at the residence. One of the primary concerns is the two meter high concrete masonry unit wall forming the north perimeter of the residential compound. The wall is too low and the thought is that someone from outside the Al Kadissiya compound, using a roof from a multi-story building in the area, could attack the residence with an RPG and/or small arms fire.

Additional concerns center on specific threats to the minister. Though a Sunni, he spent the majority of the past 20 years in the United States. In recent weeks there have been a number of reports from credible sources that state that the minister is considered a traitor. Threats include the possibility of a VBIED assassination and threats from guards securing his ministry.

Military/Ministry Concerns

Facets of the new Iraqi government will continue to invite attacks, generally from three specific groups. First, extremists wishing to install Islamic theocracy in place of a legitimate government will continue to attack new Iraqi government entities; any setback in the progression to self-rule will help their cause. The Coalition and new Iraqi government aim to promote stability; this is contrary to the goals of many extremists, who wish to promote anarchy as a means to their ends.

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Next, they may be targeted under the guise of striking collaborators. Some elements in Iraq view anyone who works with the Coalition as a traitor, as demonstrated with the continuing threats, harassment and murder of Iraqi government officials and employees/contractors.

Finally, elements of the former Iraqi regime may target these organizations in an effort to drive out the perceived occupying force. The government, especially the intelligence and police branches of the former regime was massive. Personnel formerly employed in the government already had networks available, thus enabling organized efforts. This is especially relevant to this compound, as it was occupied by an organization with unique and close ties to the top levels of the previous regime.

The enemy forces are cognizant of the value of U.S. public opinion regarding the war. Any spectacular attack, regardless of its success, will likely be used as a tool to manipulate public opinion. The recent attacks on the trains in Spain, which successfully changed the Spanish leadership, have cemented the plausibility of this tactic. As the U.S. Presidential election and Iraqi election early next year approach, attacks may increase.

Observations and Recommendations

1. Barriers and Fences: The home is within a secured compound and lacks substantial barriers and fences. As such, it is reliant on the security provided by the compounds' guard force. In order for barriers to be effective, they must be under constant observation or surveillance.

There are no perimeter counter-mobility barriers or RPG pre-detonation screens in use at this location.

There are also several areas along the perimeter where brush and/or trees could provide concealment for an adversary or an explosive device. This is especially true outside the compound diagonally across the street and along the side of the compound. These bushes should be limited

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in height and have branches along the base removed so guard force personnel can easily determine if someone is hiding behind them. Trees grow adjacent to the walls and could potentially assist an attacker either in climbing over the wall or obscuring his actions.

The un-reinforced concrete masonry unit (CMU) walls surrounding the residence are inadequate to stop vehicles from driving through them. These walls lack sufficient structural integrity, making it possible that a vehicle borne improvised explosive device detonated next to one of these walls would most likely turn the wall into lethal secondary fragmentation. Also, a vehicle traveling at a high rate would be able to breach the wall.

The west perimeter is defined by a two meter CMU wall. There are two entry control points (vehicle gates), one at each end of the wall. The gates are meant to provide privacy and security in a low threat environment, primarily crime prevention, and are not intended to counter terrorist actions. A vehicle could easily breach these gates because of the lack of reinforcement.

The north, south and east perimeter consists of a two meter tall CMU wall.

The southeast corner is defined by a small house used by security personnel.

An area of concern is the parking lot across from the home. This should be used by all guests, but should be partially blocked in order to prevent a high-speed approach to the gates. Cabled Jersey barriers should be lined along the street edge to segregate the parking area.

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Recommendations:

- Improve/reinforce the vehicle gates by installing a sliding bar barrier behind the gate. This bar should be reinforced with 3/4-inch aircraft cable and both ends should be anchored to a concrete deadman. This type of barrier is unobtrusive and will reinforce the existing gate. This barrier should be locked in position and only opened when it is necessary to allow someone to enter.

- Improve perimeter walls to ensure counter-mobility against vehicles and personnel:

- Increase the height of the wall to 3.7 meters and reinforce with 3/4-inch aircraft cable.

- Alternatively, replace the current wall with a reinforced concrete wall at least 3.7 meters tall with no pedestal or handholds. Install barbed wire out riggers on top of this wall.

- An immediate improvement would be to supplement existing CMU walls with concrete "T" walls cabled together with 3/4-inch aircraft cable with the ends anchored in a concrete deadman.

- These barriers, if intended for long-term use, can be made more aesthetically pleasing, e.g., dyed any color, have designs cast into the mold, or made permanent by adding decorative stucco and/or mortar to the outside. Ensure any decorative additions do not provide an adversary hand or foot holds.

- Line the interior of perimeter walls with sand-filled barriers (such as Hesco barriers) to add additional mass and mitigate blast and fragmentation hazards. Barriers should be filled with clean fill or sand and stacked to the height of the wall. Mortar can be plastered on the Hesco and made to have a typical wall appearance.

- Alternatively, install regularly spaced deadman posts between the gates and each corner of the inner wall. Then, connect aircraft cable in between all deadman posts to reinforce compound wall (e.g. 30-35 inches). Place eye hooks at the

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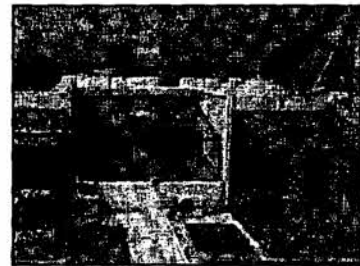
desired level of the cable and place mortar over it.

- If concrete "T" walls are unacceptable, consider placing Jersey barriers along the interior of the existing CMU walls (offset by one meter.) Fill the space between the CMU wall and the Jersey barrier with soil (free from debris and rocks) to the height of the Jersey barrier. This will add substantial mass to the wall to keep vehicles from ramming through. Plants can be added at a later date to conceal the Jersey barrier. Cable Jersey barriers together and plaster. Structural engineer should confirm structural integrity of the layout.

- To counter RPG threats, coordinate to have the exterior compound wall lined with an RPG pre-detonation screen. This will mitigate the direct fire RPG threat and force attackers to use the RPGs in a less accurate indirect fire manner.

- Line the top of the wall with standard steel floor grating or doubled chain link security fence to act as an RPG screen. Chain link fence should be at least nine gauge steel with no larger than a two-inch diamond mesh and be anchored to support poles every 12 inches. Top the screen with outriggers and triple strand barbed wire or single roll concertina/razor wire.

- As an alternative to an RPG screen, windows and doors can be 'caged' with structures similar to those pictured to the right. Include outriggers with barbed/concertina wire to improve counter-mobility against dismounted personnel.



- Ensure that clear areas inside and outside the walls exist so guard forces will have clear zones of observation:

- Trim bushes and shrubs as described above.
 - Level a belt of land at least 30 feet on both sides of a single boundary barrier.

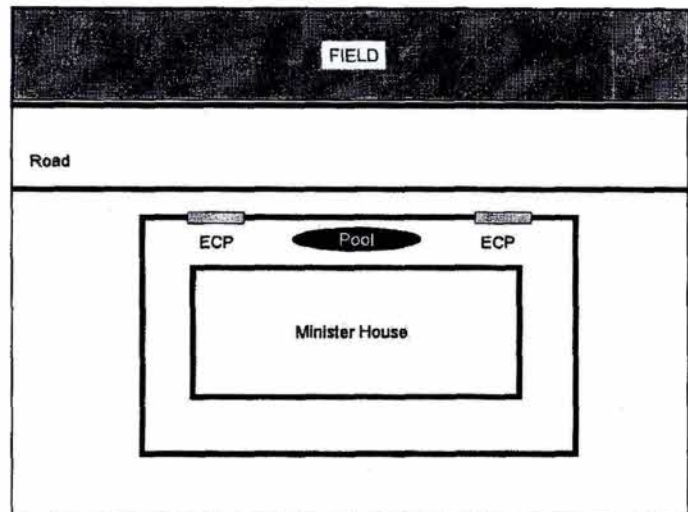
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- Level at least 30 feet inside the inner fence, the entire area between fences, and 30 feet outside the outer fence for dual fences.
 - Remove all possible dips, ridges, ditches, and objects that could conceal an intruder or obstruct vision.
 - Position poles (lighting, power, camera, etc.), overhead wires, and other features so they can't be used to circumvent the sensor system or fence.
 - Cut grass no higher than six inches.
- Line the street edge across from the residence with Jersey barriers to define the parking lot and eliminate a high-speed approach at the front gates.

2. Entry Control Points (ECPs): The ECPs for this residence are inadequate. There are two residential ECPs (vehicle gates) constructed of thin metal which could not stop a vehicle. Mr. Mehdisaleh of the guard force stated 10 guards are dedicated from the minister's personal security detail (PSD) to work the ECPs. The guards armed with AK-47s with 120 rounds of 7.62 millimeter ammunition. It was noted that no guards were at the ECP during the assessment.



Recommendations:

- Block one ECP to limit accessibility and create a visitor parking area away from the residence. Place jersey barriers on either side of the road to form a serpentine in front of the quarters, slowing traffic. Use the following recommendations when constructing the ECPs:

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- Install active barriers at all ECPs that will reliably stop vehicles (drop-arm, pop-up, cable, sliding, or chain.) Anchor barriers to stop vehicles from pushing them out of the way. As stated in the barriers and fences paragraph, the sliding gates are inadequate. The addition of an active barrier is necessary.

- Though it may be difficult to incorporate into a residential compound, the addition of speed mitigation devices is essential and better enables the active barriers to stop large vehicles. Install speed bumps, speed ditches, or a serpentine of barriers (ideally a combination of these) at the approach to each ECP to prevent a high-speed run. In order to achieve the greatest value, speed bumps and ditches should be installed diagonal to the direction of traffic, i.e., each wheel will hit the barrier at a different time making the vehicle more difficult to control at high speeds.

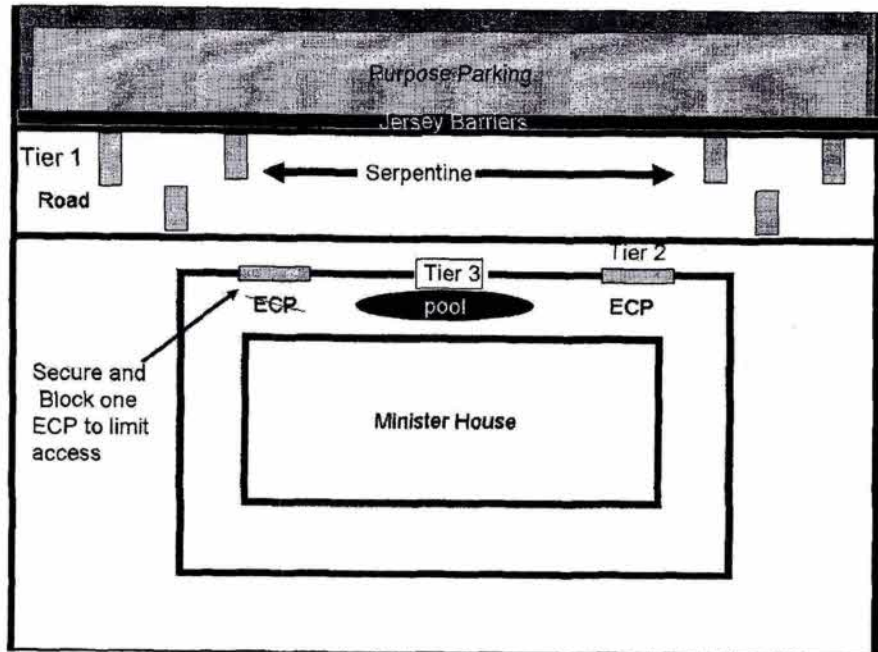
- Improve entry control procedures to ensure guards are always available and visible. A visible presence acts as a deterrence and is a valuable source of intelligence. The residence does not have the necessary space and standoff to create an adequate ECP, but this vulnerability is mitigated by the fact that the compound ECP should be conducting adequate checks. Regardless of space limitations, the residential ECP should incorporate as many of the following aspects as possible.

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- The ECPs should have three separate tiers:
 - Tier one is where drivers and pedestrians are screened for identification. Guards must determine if the driver/pedestrian has a valid reason to enter the residence. This checkpoint needs an active anti-vehicle barrier.
 - Tier two is the search area located outside the residence. Entrap vehicles being searched between two active barriers. Open only one barrier at a time. This ensures vehicles waiting to be searched cannot tailgate a searched vehicle into the residence
 - Equip the vehicle search area with search mirrors, and metal detectors. Provide training to the guards on vehicular search procedures and proper utilization of the installed equipment.
 - Tier three is the overwatch. This position should have a 7.62mm or larger weapon. Position the overwatch to observe barriers and search areas. Place the overwatch at a location which affords the gunner the ability to identify, engage, and stop a potential threat. This

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position should be constructed so it could withstand the initial phase of a complex attack. Rules of engagement must be covered in the security standard operating procedures. It will be elevated with a clear field of fire into the avenue of approach.

- Ensure ECPs can communicate effectively with PSDs and personnel running compound security.

3. Standoff: The vulnerability assessment team used the following criteria for its assessment: (Ministry Residences and Facilities) Department of State 12 FAH-6-H-111.6 Physical Security (Sole Occupants of Building or Compound) Critical Threat Areas.

This guidance calls for office buildings and residences to be provided a minimum standoff distance of 100 feet (30 meters) between the protected side of the perimeter barrier and the building exterior. Existing office buildings will be provided a minimum standoff distance of 100 feet (30 meters) to the maximum extent feasible.

The standoff for this residence does not meet the 30 meters minimum requirement set forth in the Department of State 12 FAM-6 OSPB Security Policy Handbook; however, the compound itself has sufficient standoff from the boundary around the entire Al Kadissiya compound.

The lack of standoff results in this residence's security being highly dependent on the main compound's ECPs ability to adequately search and stop all hostile vehicles.

There is five meters of standoff from the residence to the north perimeter wall; however, there are 45 meters of standoff from the residence to the Al Kadissiya compound perimeter.

There is seven meters of standoff from the residence to the east perimeter. By securing the residence on the other side of this wall, approximately 20 meters of standoff could be gained.

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There is two meters of standoff from the residence to the south perimeter wall. More standoff could be gained by securing the residence on the other side of this wall.

There is 27 meters of standoff from the residence to the west perimeter. By controlling access to the road in front of the residence and forcing people to park in the field to the west of the residence, another five to 30 meters of standoff can be gained.

Recommendations:

- Require visitors to park in designated parking areas away from the residence.

- Limit the size of vehicles allowed entry to adjoining streets. Consider use of size limits and expanding concentric rings to protect against various size vehicle threats, e.g., the innermost ring is intended to counter car-sized attacks of up to 500 pounds, a middle ring for van-sized threats of up to 10,000 pounds, and the outermost ring to stop tractor-trailer-sized threats of up to 20,000 pounds of explosive.

- Size may be limited at the entry control point by installing a limiting cable (3/4-inch aircraft cable) at height across the entry to the vehicle search area. This will limit the height of vehicles allowed past the ECP.

- Exceptions are made through the use of an Entry Authorization List (EAL) that details the vehicle license plate, vehicle identification number, driver/passengers information, and intended purpose/destination. Only pre-cleared delivery vehicles listed on the EAP should be allowed to enter. These vehicles are still subject to search procedures detailed throughout this document.

- Secure adjacent property to gain additional standoff.

- Harden the structure to withstand blast effects. The threat should dictate the level of protection

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required. The extremely limited standoff will require extensive, and potentially cost prohibitive modifications to protect all residents. Refer to paragraph eight for construction modifications.

- Consider moving to a new property if threat mitigation requires steps that are cost prohibitive.

4. Lighting: There are streetlights in front of the residence, but no working perimeter lighting. There are decorative yard lights and outdoor lighting fixtures along the front door of the building. The small yard lights are adequate for the area. These lights have not been installed in the back of the compound leaving area very dark.

No emergency lighting exists for either the interior or exterior of the residence.

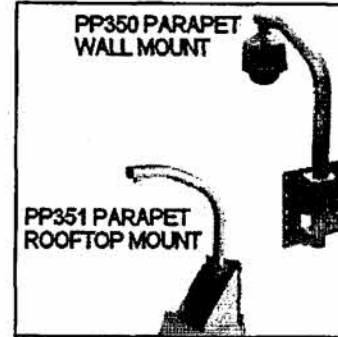
Recommendations:

- Perimeter and area lighting should consist of the following:
 - Floodlights to illuminate the perimeter mounted on or over the perimeter wall facing outwards. Include a method to turn the lights down to a low-level for typical use (dimmer switch) or turn them to full power in an emergency.
 - Soft lighting installed low to the ground for all areas inside the perimeter wall. Ensure the lighting does not illuminate the grounds more than other nearby areas. Avoid illuminating the building and guard posts.
 - Non-emergency lighting should use incandescent bulbs instead of mercury vapor lamps. Mercury vapor lamps flicker and tend to interfere with surveillance cameras.
 - Ensure lighting is sufficient to allow security personnel to function without being silhouetted.

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Lighting should also be compatible with available sensors and camera systems.

- Install permanent lighting dedicated to the entry control points. Lighting should consist of area lighting for visual recognition and searching, as well as forward facing spotlights to obscure incomers' vision.



- Contract a professional security consultant to conduct a lighting survey and install proper lighting as soon as possible. Illumination should provide 360-degree coverage of the perimeter with overlapping coverage. This can be completed to blend in with the rest of the neighborhood lighting.

5. Sensors: There are no sensors or cameras dedicated to the building. Use of closed circuit television (CCTV) will provide constant surveillance, augment security operation, and act as a force multiplier.

Recommendations:

- Install large, convex mirrors on light poles outside the compound and orient so they allow guards to observe activities normally out of their vision, e.g., along exterior perimeter walls.
- Install a Closed Circuit Television (CCTV) System. Cameras should have overlapping coverage and a view of the entire perimeter. The system should have sufficient recording capability for intelligence & post event analysis. Maintain recorded media for 30 days before recycling.
- If adequate exterior lighting is not available, the CCTV system should incorporate infrared capabilities to supplement low visibility conditions.
- Install video cameras out of reach of pedestrian traffic or encased in tamper-proof casings. Encase

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video distribution cables and power cables in conduit to prevent tampering.

- The CCTV system (including cameras, controllers, and recording systems) should incorporate a battery backup apparatus to maintain system operations during power outages.

- Use day/night cameras with pan/tilt/zoom capabilities. These cameras can be used to screen entrants and identify potential threats. This reduces some risk to the guards.

- Install stationary day/night cameras dedicated solely on watching the perimeter.

- Mount perimeter cameras to poles inside the compound that arch over the wall. Ensure the poles are high enough to prevent tampering. These cameras should utilize infrared for nighttime observation.

6. Security/Quick Reaction Force (QRF): The Minister has a 30 person personal security detail (PSD) at the residence and 20 while in transit. Ten of the 30 guards are dedicated to work ECPs at his home. The guards are equipped with AK-47s with 120 round of 7.62 millimeter ammunition.

The QRF is provided by the forces within the Green Zone. Their response time is less than 10 minutes.

There is no security operations center.

Recommendations:

- Build a guard shack capable of providing protection from bomb blasts and small arms fire. Ensure the guard shack is not a weak section of the perimeter. If the guard shack is weak a vehicle bomber can drive through the shack to avoid the hardened perimeter. Guard shacks should provide occupants a minimum of 15 minutes of ballistic resistance and force entry protection.

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- Create a security control center complete with radio, telephone, satellite phone, mobile phone and internet communications this can be incorporated into the guards sleeping quarters.
- Ensure all guards are assigned a minimum of 90 rounds for each guard.
- Field additional guard equipment to include:
 - Body armor - second-chance style and flak-vest
 - Protective helmet
 - Standardized uniforms
 - Less-than-lethal force - pepper spray, baton, expandable baton, etc.
 - Multi-channel portable radio
 - Standard web gear - belt, holster, handcuff pouch, radio pouch, flashlight holder
 - Handcuffs - metal and plastic (i.e. flexi-cuffs, tuff-cuffs, kwik-cuffs, etc.)
 - Flashlight
 - Whistle
 - Additional uniform items - jacket, rain jacket, boots, and traffic vest
 - Unmarked equipment bags (to avoid marking personnel as government employees while transiting to and from work)
 - Pocket knife or multi-tool
 - Pen and note pads
 - First aid personal protective equipment - CPR mask, rubber gloves, gown, bio-hazard bags
 - Unmarked equipment bags (to avoid marking personnel as government employees while transiting to and from work)
 - Pocket knife or multi-tool
 - Pen and note pads
- Post guard force in a manner which provides early warning and close-in defense:
 - This may require the hiring of additional guards depending on the threat.
 - Post personnel (or utilize cameras) to monitor the buildings surrounding the compound.

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- Consider requesting a full-time Iraq Police presence at the entry control point(s).
- Schedule shifts to allow work/rest cycle to occur in a manner to keep guards alert and awake.

- Coordinate with local ICDC or IP authorities for follow-on forces in the event of an overwhelming attack. Provide reliable communication between the ICDC or IP and the guards. Test the means of communication regularly.

- Guards should have their own rifle with 90 rounds of ammunition. Every weapon should be properly sighted and maintained. Each guard should be trained and qualified on the weapon they are carrying. Consider arming supervisors, security operations center dispatcher, and internal patrols with pistols with 30 rounds of ammunition.

- Dedicate security personnel for internal patrols.

- Security plans should be established to cover standard security postures, post instructions, and duties/responsibilities of all security personnel to include personnel security detachments within the facility.

7. Personnel Circulation Control: There are no Personnel Circulation Control measures in place. Organized procedures need to be implemented to control the circulation of personnel around the property.

Recommendations:

- Implement an entry authorization list (EAL) to identify those individuals that will have unfettered access to the compound.
- Guests not on the EAL need to be announced prior to being given access. Security should validate reasons for access and/or deny entry.

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- Develop an entry control log to account for all personnel who have gained access to the residence. Record the time, date and purpose of visit. Treat this as a sensitive item because valuable information can be gained from this document.

- Added security would consist of hand wand metal-detecting scans, checking hand carried items and allowing only residents' vehicles to park inside the compound or on the street by the residence.

- To improve security/trustworthiness of employees, develop an arrangement with local support firms to ensure that the same individuals are used on an ongoing basis to carry out repairs, maintenance, landscaping, etc. Conduct background investigations on these individuals. Wherever possible, defer maintenance if these individuals are not available.

8. General Construction: The two-story residence is located just southwest of the Green Zone, within the bounds of the former IGC Housing Complex. It houses eight people to include the minister, his wife, three children, his mother-in-law and two brothers.

The building construction consists of heavy reinforced-concrete floors and roofs. It has masonry walls with a brick façade; the roof will provide some protection from contact fused mortars and rockets up to 82mm, but will not protect against dedicated artillery. The exterior walls will withstand small arms fire and forced entry attempts using picks, axes, power tools, etc. The walls will provide some protection from blast and fragmentation.

The residence's exterior doors are a mix of metal, glass doors, glass sliding doors, and 2-inch hollow-core wood doors with a decorative wood overlay. The metal doors have large glass panes and thin sheet metal panels. With the exception of the sliding glass doors, a single dead bolt with a ¾-inch draw and/or standard security bolts are used to secure the exterior doors. These doors will not provide ballistic resistance or force entry protection, and should be replaced with solid wood doors, preferably clad with 16-

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gauge galvanized steel on the exterior and 12-gauge steel on the interior. In addition, these doors should have high-security bolt works. The sliding glass doors are secured by standard sliding locks in the door handles.

Decorative, low-to-medium threat steel security grates/bars are used to augment first floor windows to provide forced entry protection. The first floor window grates at this residence are properly mounted in most instances and will provide some forced entry protection. These bars are designed to deter criminals, not terrorists. If these bars are not replaced, additional bolts should be installed along all sides to better anchor the grates.

For higher levels of protection install high-security window and door grates. These, at a minimum, should consist of 5/16th-inch reinforced steel bars welded in a four inch by four inch mesh. Welds should be at every intersecting point, and this mesh should be secured to a frame consisting of 1/4-inch reinforced steel. The frame should be securely anchored to the window sill every six to nine inches.

The exterior doors should bolt to securely mounted fixtures in all directions (top, sides and bottom). Properly employed, a combination of security gates, solid wood doors clad with galvanized metal and high-security bolts works will provide for ballistic resistance and forced entry (BR/FE) protection.

The facility's interior doors are hollow-core wooden doors. These doors are not substantial and will not provide any protection to the room's occupants.

The glass in this building was a uniform six millimeters (1/4-inch) monolithic annealed glass. The building has large windowpanes in most rooms. The large sliding glass doors, and accompanying windows, was treated with mirrored sun tint; however, none of the windows has been treated with fragment retention film. The residence's current thin curtains will provide some minimal amount of protection from flying glass, but this is an insignificant amount of mitigation and should not be counted on.

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Additionally, the window frames used in this building are similar in size and design to those found throughout the country. The VA team has noted general construction trends throughout Iraq and recommends that all frames be inspected for proper mounting.

Improperly mounted frames, which accounts for the majority of the window frames seen in Iraq, can be dislodged and sent hurtling into a room by blast overpressure. The window frames are steel, with the window panes held in place by caulking. Even with fragmentation film applied, these frames may not be strong enough to hold the panes in place during a blast. In addition, many of the window frames are poorly secured to the building, often having gaps between the frame and the wall.

Of critical importance are the windows and furniture arrangement in the high-occupancy areas, especially those rooms that are easy to predict occupancy times, e.g., the living room, dining room and master bedroom. These areas put occupants at risk of severe injuries in the event of explosions that result in windowpane failure. The window glazing in these rooms should be engineered for the highest level of protection, e.g., ballistic glass /polycarbonate.

In order to adequately protect occupants from glass hazards, all four major components of a glazing system (glazing, frame, anchorage and wall or supporting structure) must be engineered as a whole, based on the Required Blast Mitigation Standard.

Recommend that a detailed review of options to reduce window vulnerabilities be conducted. This will include the need to cover key windows or replace windows with laminated glass to provide blast and fragment resistance for indirect fire threats. Consider providing bullet resistant windows for key offices and locations.

The facility has typical concrete masonry unit walls covered with plaster. These walls were not designed with blast loading in mind; however, the walls should offer sufficient protection if proper standoff is enforced.

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Consider strengthening existing exterior walls to increase the resistance to blast loads. The resistance of a wall to blast loads can be enhanced in a number of ways to include:

1. Spraying polyurea-based liner (available in multiple colors) to both the interior and exterior of all walls, ceilings and floors;
2. Installation of an adhesive geo-textile fabric to the interior of existing walls;
3. Installation of metal, structural retrofit along the interior of all facility walls; and,
4. Adding an additional layer of concrete or CMU to the interior of all facility walls to increase structural integrity.

Another critical consideration is furniture arrangement and layout. Care should be taken to arrange furniture so as to reduce the risk/exposure to fragmenting glass and outside observation. The minister's desk is situated in between two large windows. His bed is directly in front of a large window. The same is true for the three children. In most cases, the furniture can easily be rearranged to reduce the risk; e.g., in his bedroom, his office and his son, Mohammed's room. The bedroom for his two daughters, Maryam and Kautha, is limited space wise and a simple rearrangement is not possible; however, the current location of the beds is optimal given these constraints. Consideration should be given to installing blast curtains in these locations.

Recommendations:

- Retrofit all windows to protect against the effects of glass fragmentation. Choose a measure providing the maximum protection possible under given circumstances. Recommend incorporating a combination of ballistic glass and/or blast curtains in areas where the minister will spend considerable time, e.g., bedroom, living room and dining room. Ballistic glass will provide the highest level of protection. Blast curtains require minimal standoff to allow them to expand and catch glass fragments. Modern blast curtains are aesthetically pleasing, work well with

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the sliding glass windows, and allow air to enter without compromising the security benefits.

- Install laminated glass in all other areas.
- Wall off unnecessary windows to reduce glass hazards.
- If blast curtains are not available, then heavy, multi-layer, full-length curtains can be used to afford a minimal level of safety. Although such drapes do not meet blast curtain standards, they do provide some protection: recent attacks demonstrate that heavy curtains can trap 20 to 30 percent of glass fragments.
- If ballistic or laminated glass is not available, consider the following:
 - The window glazing should be retrofitted and includes the use of one or more of the follow techniques: fragment retention film (FRF with connections to the existing frame; film with blast curtains; film with catcher bars or cables; replacement of the existing glass with other types of glazing; or blast curtains. If FRF is used, the Mylar laminate should be 8 to 11 mils thick for exterior window panes. Thinner laminate, 4-8 mils thick, can be used on interior windowpanes.
- Arrange work and sleeping areas so that occupants are not directly in front of windows.
- To minimize the potential for glazing hazards, minimize the size and number of windows for new construction and renovations.
- Have structural engineers inspect all window frames to ensure proper anchorage.
- Retrofit residence walls to protect against the effects of secondary fragmentation. Protection may be provided in a number of ways, including:

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- Spraying on of polyurea-based liner (available in multiple colors) to both the interior and exterior of all walls, ceilings and floors.
 - Installation of adhesive, geo-textile fabric, to the interior of existing walls.
 - Installation of metal, cross-beam braces along the interior of all facility walls.
 - Or, adding an additional layer of concrete or CMU to the interior of all facility walls to increase structural integrity.
- Upgrade entry doors so that they provide a minimum of 15-minutes BR/FE and are able to withstand forced entry by intruders using axes, crowbars, pry bars, and hand and power tools. Install locking devices using high-security bolt works and drop bolts; doors should bolt to securely mounted fixtures in all directions (top, sides and bottom).
- Upgrade interior doors to key locations, e.g., office, bedrooms, etc. Interior doors should be made of solid wood and incorporate high security bolt works and drop bolts; doors should bolt to securely mounted fixtures in all directions (top, sides and bottom.)
- Incorporate sound construction practices and force protection standards into any renovation.
- Improve the strength of window and door grates by adding additional reinforcement or by replacing them with high-security grating.
- Install security grates in front of sliding glass doors.
- Consider eliminating the decorative steel and ceramic walls that block in the porch area off of the dining room. Replace with a reinforced CMU wall to the height of the second floor. This will eliminate observation into the room and should serve as a blast wall to mitigate damage to the large glass windows

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9. Safe Havens/Areas: The minister's residence has no designated safe haven or safe area. A safe haven is a designated area within a building that serves as an emergency sanctuary and provides a minimum of a 15-minute forced entry and ballistic resistant (FE/BR) protection. It is intended to afford protection against intruders who may utilize axes, crowbars, or small arms to gain access and attack the occupants. The safe area should also have communications, food, water, ballistic protective clothing and chemical protective equipment.

The residence has a main bathroom on each floor, an additional bathroom in the foyer, and a store room in the kitchen, that can readily serve as safe havens. All are either windowless or have only small or narrow windows. Installation solid-wood doors clad with 16-gauge galvanized steel on the exterior and 12-gauge steel on the interior. These doors should have high-security bolt works, which bolt to securely mounted fixtures in all directions (top, sides and bottom).

Recommendations:

- Convert the kitchen store room for use by household staff as a safe haven. It is ideal in that it is windowless and is large enough to hold the maximum number of people who may be present in the building at any given time.
- Convert the main bathroom and foyer bathroom on the first floor, and the main bathroom on the second floor, into safe havens. This will place a safe haven close to any location the minister may be at within the residence.
 - Replace doors to these rooms with ballistic-resistant doors of solid wood clad with 16-gauge galvanized steel on the exterior and 12-gauge steel on the interior. Where possible change the doors so they open outward (away from the safe haven). This allows the doorframe to act as additional reinforcement. If doors are installed opening in this fashion, hinges should be pinned or welded to guard against removal/tampering.

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- Install locking devices using high-security bolt works and drop bolts. Safe haven doors should bolt to securely mounted fixtures in all directions (top, sides and bottom).
- If safe haven rooms have windows, then ensure that all window frames are anchored immovably into the surrounding walls. Replace window glass with polycarbonate panes sufficient to stop 7.62mm NATO rounds. Alternatively, mount steel plates meeting the ballistic requirements (1/4 inch thick or two plates 8mm thick) into anchored tracks along the windows, such that the plates may easily be slid over the windows and bolted into place.

- Landline and wireless communications, food, water, first aid supplies, ballistic protective clothing, minor firefighting equipment/supplies, and chemical protective equipment should be stored in a secure location within the safe haven.

- The compound's Emergency Action Plan (see Paragraph 11, below) should specify the steps that all personnel are to take in the event of attack, including with regard to the location and use of the safe haven.

- Instruct all personnel working in the building on these procedures.

10. Communications: The residence has an operational landline phone (5438-8584). Additionally, the minister's brother, Nashet Mahdi, is the security chief. He has two Iraqna numbers: (011-964) 70914099582 and (011-964) 7901708194. The minister was provided a Thuraya satellite phone. The residence lacks a mass notification system. The relatively small size of the residential compound should preclude the need for a state of the art notification system.

Recommendations:

- Avoid using cordless handsets as part of landline phones as they can be easily monitored.

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- Ensure the minister and family members have redundant forms of communications and are familiar with procedures to summon a quick reaction force.

11. Emergency Action Plan: The residence lacks a formal emergency action plan (EAP). A formal EAP is necessary to address potentially lifesaving actions during an emergency and to clearly delineate and define roles and responsibilities for post incident response.

The residence is supplied with electricity from the local power grid.

The residence has no fire alarm activation points, smoke, heat, or carbon monoxide detectors in any room of the building. There are no fire extinguishers, fire-points with hoses, nozzles, or standpipes inside the building. No fire hydrants or standpipes could be found on the outside of the building or on the compound grounds.

There are no medical or first-aid supplies in the building.

Recommendations:

- Install complete fire detection sensors (fire/heat/carbon monoxide) in every room of the residence. The fire detection sensors should alert to a monitored centralized control panel. Outfit the building with a fire alarm system which can be activated both manually (at the point of fire) or from the monitoring station.
- Install fire suppression points with fire extinguishers in every room and in common areas.
- Install fire-points with hoses, nozzles, and/or standpipes. Ensure all existing fire suppression equipment is operable and properly inspected. The installation of an automatic fire sprinkler system is ideal.
- Due to the lack of stand-pipes and fire hydrants, wheeled 150lb ABC type fire extinguishers should be on-site and available to suppress fires until the arrival (or in place) of the fire department.

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- Due to the lack of an emergency medical system (EMS), the building should have a properly trained and equipped paramedic on-site any time the building is occupied.

- Place first aid kits, fire extinguishers, and flashlights in all common areas and at each entry control point.

- The residence EAP should be a part of the larger compound's EAP, and should cover actions by the residents during the following situations:

1. Fire
2. Medical emergencies
3. Indirect fire
4. Small arms fire
5. Demonstrations
6. Evacuation procedures
7. Primary and alternate evacuation Routes
8. Emergency destruct plans
9. Decision points
10. VBIEDs/IEDs

- Ensure all security personnel and occupants are completely familiar with the EAP. The EAP must cover, in detail, notification of emergency responders, evacuation of the buildings, personnel accountability, casualty collection points, and the use of safe havens and assembly areas. Address all actions to be taken in the event of any emergency and/or threat applicable to this site in the EAP. The plan should evolve based on perceived and actual threats.

- Exercise and test the EAP regularly. It is important that the EAP be practiced by all personnel to ensure effectiveness.

- Appoint a security/safety officer with overall responsibility for implementing the EAP and for notifying medical, fire, and police personnel in the event of an emergency.

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- Designate an emergency response team (ERT) to search predetermined areas of the compound for injured and missing personnel. Search teams should have flashlights for this purpose and tags to mark the searched areas.
- Post emergency and evacuation plans, both written and utilizing pictures, to inform occupants of the policies and procedures.
- Post maps and information on emergency exit routes, emergency notification numbers, location of safe havens/assembly areas and location of firefighting & medical resources.

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Appendix A: Barriers

Any perimeter barrier serves as a deterrent, even if it is only symbolic. Although a fence or wall offers little physical protection against premeditated intrusion, an intruder must commit an overt act in crossing the barrier and subjects himself to possible observation.

Barriers are distinguished by their functions: anti-personnel, anti-vehicular, blast mitigation and special. Since all obstacles can be breached, they must be placed under observation and provide sufficient delay to enable security forces to respond to the threat.

Barriers serve the following purposes:

- **Establish standoff distance from a bomb.** Barriers should be placed far enough from protected assets to mitigate blast effect. For instance, an anti-vehicular barrier should be placed far enough away from an asset to protect it from a vehicle bomb, and an anti-personnel barrier should be placed far enough away from an asset to protect it against a thrown or hand delivered bomb.
- **Identify the installation's legal boundary and clearly define the intent of a potential attacker.** Barriers force a terrorist to take overt action in order to breach the perimeter. By delineating the legal boundary, a sentry can identify anyone breaching the perimeter as hostile and take appropriate action. The perimeter should be marked with multilingual restricted area signs that provide warning and state "deadly force is authorized." Signage should also be pictorial/graphical given the high percentage of the population that is illiterate. Ensure the Host Nation approves of the signs.
- **Provide a psychological barrier against intrusion and attack.** The mere presence of a barrier may serve to dissuade or redirect a potential attack.

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Barriers should be fully integrated to form a continuous obstacle around the installation capable of stopping the threat vehicle given speeds achievable on surrounding terrain. Special consideration needs to be given to high-speed avenues of approach. Obstacles should be emplaced in concert with each other, the natural terrain, and any man-made obstructions. The barrier plan, sensors, and final protective and overwatch fires should be integrated and fully support each other. In many instances when a single barrier cannot stop a vehicle, a combination of barriers can. For example, a cabled crash beam barrier alone is unlikely to stop a ramming vehicle unless combined with a jersey barrier serpentine which will slow the vehicle prior to its arrival at the crash beam.

Barriers can further be separated into passive and active barriers. Passive barriers are fixed at all times and are used to deny access to all personnel or vehicles. Passive barriers include fences, concertina wire, jersey barriers, berms, and ditches. Active barriers can be opened to provide access to friendly personnel and vehicle traffic. These barriers are typically not as strong as their passive counterparts and require greater protection against forcible entry. For active barriers to be effective, they should be kept in the closed position until personnel and vehicles have been identified and allowed entry. Because barriers can be compromised through breaching (e.g. cutting a hole through a fence) or by nature (e.g. berms eroded by the wind and rain), barriers should be inspected and maintained at least weekly. Inspectors should look for deliberate breaches, holes in and under barriers, sand dunes building up against barriers, and the proper functioning of locks.

Types of Barriers:

Anti-Personnel: Antipersonnel barriers are designed to deter entry by foot-mobile personnel. These barriers protect against infiltrators who may try to place small explosive charges, tamper with supplies and equipment, or attack friendly personnel once inside the compound. Typical antipersonnel obstacles include chain link fences with barbed wire outriggers,

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triple-strand concertina fences, wire obstacles, concrete walls, and barbed wire fences. In most instances, antipersonnel obstacles can be penetrated by climbing over them or through use of wire cutters. Consequently, antipersonnel obstacles must remain under constant observation, or surveillance through some other electronic means (i.e. IDS, TASS, etc.).

When determining where to place obstacles, one must ensure that nearby structures cannot be used to jump or climb over the obstacles. Anti-vehicular barriers should be placed 10 feet from antipersonnel barriers to prevent someone from using a vehicle to breach/bypass the antipersonnel obstacles. The following paragraphs provide additional guidance for employing and constructing antipersonnel obstacles for an installation's barrier plan.

Examples:

- Chain link and metal mesh fence
- Triple-strand concertina wire
- Concrete walls
- Wire obstacles

Anti-Vehicular (Passive): Anti-vehicular barriers are designed to stop vehicles at the perimeter of an installation. Since anti-vehicular barriers are intended to establish the standoff distance from the protected assets, barriers should be placed no closer than the minimum desired standoff distance. These barriers are intended to prevent bomb-laden vehicles from entering the compound while providing sufficient standoff to mitigate blast overpressure. Concern must be given to secondary fragmentation created from explosives in close proximity to concrete barriers or concrete walls. Typical anti-vehicular obstacles include: Cabled jersey barriers, cabled chain link fences, anti-vehicular berms and ditches, and concrete walls. When placing anti-vehicular barriers, attention should be focused along the high-speed avenues of approach outside the perimeter. It is possible to breach anti-vehicular obstacles, but breaching methods require considerable time or

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equipment not readily available to most terrorists. Anti-vehicular obstacles can be penetrated by using explosives to breach walls or jersey barriers, eliminating berms or ditches with bulldozers or high-pressure water hoses, severing cables in cabled fences with a cutting torch or explosives, or moving jersey barriers with a forklift. Although it is improbable that a terrorist will attempt to breach vehicle defenses in one of these methods, the barriers need to remain under constant observation to report incidents where terrorist vehicles may try to breach obstacles with suicide ramming attacks. Consideration should be given to multiple vehicle breach attempts at a single site or multiple sites along the perimeter. Complex, e.g., multiple, VBIED attacks are a methodology that has been employed in Iraq and terrorist techniques are becoming more sophisticated.

Examples:

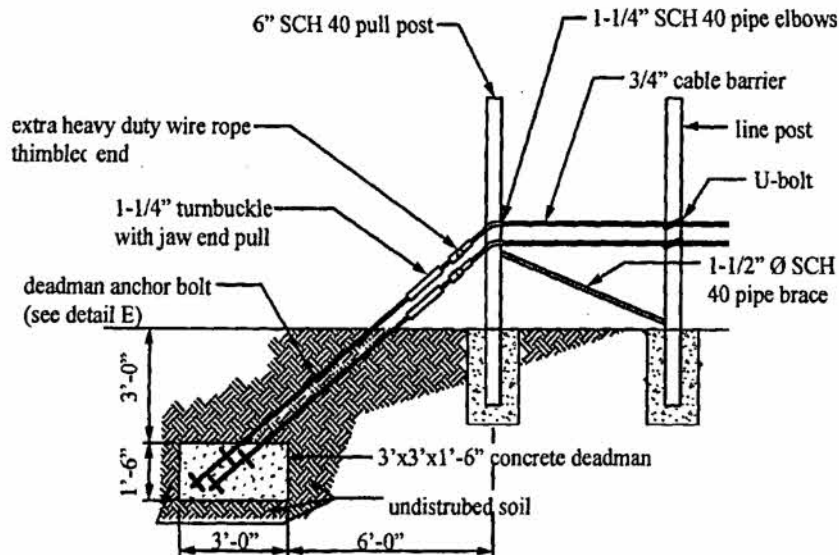
- Cabled jersey barriers *
- Cable reinforced chain link fence - cable should be run at 30 and 35 inches as measured from the ground *
- Bollards - minimum 8 inches in diameter
- Anti-vehicular berms and ditches
- Reinforced concrete walls
- Concrete masonry unit (CMU) walls

* Cabled barriers and fences must be secured utilizing a deadman weight as shown below:

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Deadman Post Detail



Anti-Vehicular (Active): Active anti-vehicular barriers are used to control access into an installation or segregated area. In order to be effective, they should be employed to block access until a vehicle has been searched and authorized access. Because most active anti-vehicular barriers are not as effective as passive barriers, they should be integrated with speed bumps, serpentine, and sharp turns which will reduce the speed of a vehicle attempting to gain access.

Examples:

- Cabled crash beam barriers
- Bollards
- Cabled steel hedgehogs
- Trucks
- Tire puncture strips

Blast Mitigation: Blast mitigation barriers are used to control primary and secondary fragmentation during a blast and provide protection from direct fire attacks.

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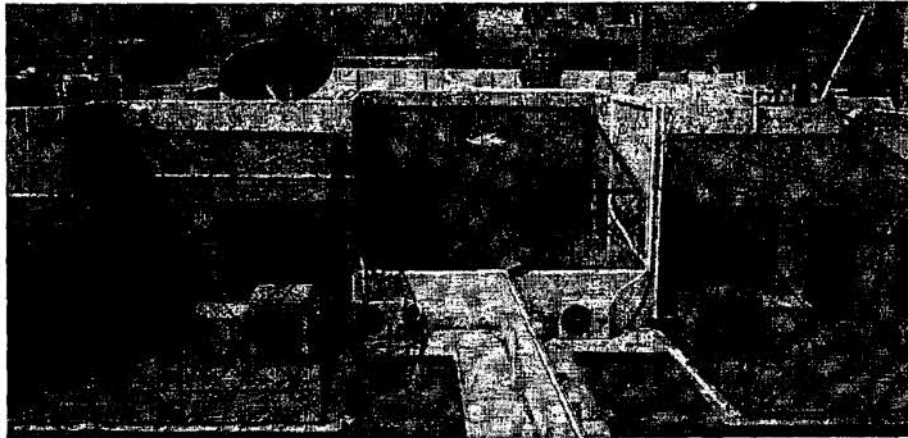
Mitigation (or attenuation) of blast effects is the dissipation of blast energy so that acoustic and shock waves, peak overpressure, reflected peak overpressure, impulse and after-burn (the rapid burning of combustible materials in the "hot zone", including soot, occurring so fast that it adds to blast effect from the original explosive) are reduced. This reduction is accomplished through physical and chemical processes, the proportion of each determined by the explosive material and circumstances of a particular blast. The remaining energy is transmitted at a slower, more sustainable level. The amount of reflected energy is significantly reduced with mitigation.

Examples:

- Hesco Bastion barriers
- Sandbags

Special: Though not specifically a barrier, chain link and metal mesh fence can be utilized to create a pre-detonation screen to defeat some types of rocket propelled grenades.

(U) Examples:



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Improvised RPG screens using chain link fence fabric should be made from 9-gage steel wire woven in a 2-inch diamond mesh. The 2-inch diamond mesh is an important criterion for a pre-detonation screen; many have a 3-inch diamond mesh that does not work as effectively. USACE engineers recommend that a pre-detonation screen consist of a double layer of fencing. The fencing does not have to be perfectly offset, but rather ensure that it is not lined up directly.

RPG pre-detonation screens are most effective against the PG-2 and the early models RPG-7 by destroying/defeating the piezo-electric module to transmit an electric current to the fuse in the rear of the RPG or allowing the device to destruct with sufficient standoff so as to minimize injuries. Newer versions use a different detonation method. In cases where the firing device is shorted out, the rocket motor will continue to propel the device towards the target with the potential for causing damage based on the kinetic energy of the device. The PG2 and early models of the RPG 7 are still the most prevalent version found, and in use, in Iraq.

A very effective pre-detonation screen makes use of standard steel floor grating (similar to what is found on the striker vehicles.) This type of screen will work on the older model RPGs that make use of the piezo-electric detonation module, and the modern versions. The floor

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grating is sufficiently strong enough to either detonate the device or mechanically break it up and pass through smaller pieces, i.e., destroying the rocket motor.

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Appendix B: Entry Control Points

Entry Control Points (ECPs) are used to control access into an installation or compound. Guards at ECPs are responsible for verifying authorization for access to the compound, searching vehicles and personnel, and preventing unauthorized access. Key areas of an ECP are the identification checkpoint, search area, exit, and overwatch. Barriers are used at each of these areas to control traffic. Ensure fields of fire for overwatch positions do not include or minimize the number of friendly guard posts and host nation personnel, and buildings within the fan.

The first priority of an ECP is to maintain perimeter security. As such, the ECP should be designed with the following in mind:

- It is a part of the perimeter, which is the first physical line of a "defense in depth" strategy and a legal line of demarcation;
- It must be able to operate under all threat conditions; and
- It must have security features that protect against vehicle-borne threats and illegal entry.

ECPs must have a working environment that is both safe and secure for security personnel. Security safety includes provisions for personal protection against attack and errant drivers. Special consideration must be given to climate, location, and orientation.

The design of an ECP must take into account a number of design and location issues to include: roadway design, barriers, identification checkpoint, vehicle and pedestrian search areas, overwatch position and the exit. Each section will be discussed individually below.

A. Geometric Roadway Design:

The design of gate roadways depends on the type and volume of traffic expected, anticipated roadside development, the space available, the security level, and other factors.

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This section summarizes basic aspects of the design of an installation roadway. For further information, refer to the Air Force Installation Entry Control Facilities Design Guide, dated December 4, 2002.

- Right-of-Way: The right-of-way comprises the entire cross section of the roadway. All components of a gate should be in or immediately adjacent to the right-of-way. The right-of-way through a gate should be as wide as practical, especially if future expansion is anticipated.
- Lane Width: As a general rule, lanes approaching the gate should be 3.66 meters (12 ft) wide, plus another 0.61 meters (2 ft) on each side for the curb and gutter. However, lanes at the gatehouse should be 3.04 meters (10 ft) wide to slow motorists down and place them close to the ID checker.
- Medians: Medians are used to:
 - o Separate opposite traffic flows
 - o Provide a protected zone for left or U turns
 - o Minimize headlight glare
 - o Create an open space for landscaping
 - o Provide space for signs
 - o Provide space for a gatehouse

If space is extremely limited, the minimum width of the median at the ECP should be 4.88 meters (16 ft). The desired median width is 9.14 meters (30 ft), which protects vehicles making left or U-turns.

- Curbs and Gutters: Curbs are primarily intended to contain vehicles within the roadway and to provide an elevated platform for personnel who must stand close to the moving vehicles. Curbs should be 152mm (6 inches) high at the approach to a gate. Due to the threat condition in this region, curbs a minimum of 457mm (18 inches) high, are recommended as a low-cost means to prevent motorists from leaving a road to bypass security or to access a sensitive base area.
- Shoulders: Shoulders are discouraged near an ECP because motorists tend to go faster, or even park, where there are shoulders.
- Denial/Exit: This area provides motorists denied access to the compound with an exit lane to outbound

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traffic lanes. This is essentially a U-turn area that should be large enough for large vehicles to turn around and enter the exit lanes. The exit lanes should be designed to deter an unauthorized inbound vehicle from bypassing entry control and gaining access to the installation. If this cannot be accomplished acceptably with traffic calming or lane separation techniques, a one-way deterrent device (i.e., tire shredder) should be considered.

B. Barriers:

In order to be effective, barriers at the ECP must be integrated with the surrounding perimeter barrier system. In order to maintain positive control of the traffic flow through the ECP, the guards there must have active barriers that can easily be opened and closed. The most common active barriers within the USCENTCOM AOR are cabled crash beam barriers, also known as drop arm barriers. Other active barriers include hydraulic rams, cabled steel hedgehogs, and metal crash gates. Active barriers should be used to control traffic flow into the search area and through the entrance and exit lanes. Active barriers alone are less likely to stop a moving vehicle than their passive (static) counterparts; however, when properly integrated with passive barriers, they can effectively stop vehicles.

Two elements affect a vehicle's ability to breach an obstacle: speed and weight. Sharp turns, Jersey barrier serpentine, and speed bumps can be used to minimize the speed of an approaching vehicle. By forcing the driver of a vehicle to make a sharp turn in order to enter the ECP, the vehicle (especially a large vehicle) must slow down considerably. A serpentine similarly forces a vehicle to slow down by making the driver negotiate sharp "S" turns before he reaches an active barrier. If a driver does not slow his vehicle while negotiating the serpentine, he will lose control and hit the jersey barriers. The tighter the serpentine, the more the vehicle must slow down. Additionally, a tight serpentine restricts the size of vehicles that can approach the gate. If large vehicles or trucks must be allowed entry, an additional, wider serpentine incorporating large speed bumps which bottoms

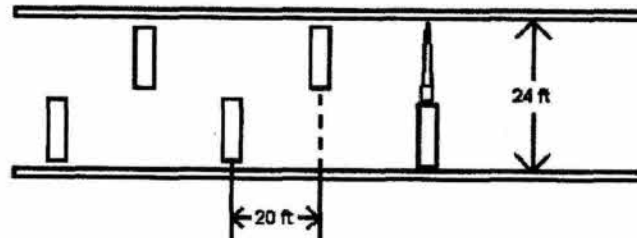
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out passenger cars can be used to slow large vehicle approach. Serpentine should be placed on the outside of both entrance and exit ECP active barriers.

Jersey barrier serpentine and cabled crash beam barrier



When possible, separate ECPs or lanes for trucks and cars should be used to allow each ECP or lane to serve specific vehicles. For example, the small vehicle lane would include a tight serpentine that could only be negotiated by small vehicles. The large vehicle lane would include a wider serpentine with large speed bumps. The speed bumps should be large enough to cause small vehicles to bottom out, thus denying them access through this lane.

Separate small and large vehicle ECPs help distance personnel from potential bombs because the majority of personnel travel in small vehicles. Since large vehicles have the potential to carry a larger bomb and take more time to search, it is best to separate large vehicles from concentrations of personnel and the passenger vehicle search area. Small vehicle traffic will flow more rapidly, reducing backup at the ECP and reducing the number of personnel in the vicinity of large, un-searched vehicles.

C. Identification Checkpoint

The identification checkpoint is used to determine if someone is authorized to enter a compound. In most cases identification requirements for personnel differ based upon their affiliation. An Entry Authority List (EAL), which lists the names of personnel authorized access to controlled areas, should be used to verify authorized access to areas where entry is strictly controlled.

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The identity of contractors, vendors, and visitors should be more closely scrutinized than employees/principles. All contractors should be listed on an EAL. If not on an EAL, the contractor(s) and their vehicle(s) should be ordered away from the ECP area until the sponsoring escort arrives. If not authorized unescorted movement, the contractor(s) must not be allowed to enter the compound until their escort arrives. After verifying identification, the picture ID of the contractor(s) should be exchanged for a color coded contractor badge which indicates at a glance the areas of authorized access. The ID and badge exchange should be recorded in a logbook to ensure accountability of badges and keep a record of visitors and contractors to the compound. When the contractor leaves the compound, he should return his badge for his ID. At the end of the day, the log should be reconciled to ensure that all contractors have left the compound and all badges have been accounted for. The procedures for admitting visitors should be similar to contractor procedures. All contractors, visitors, their baggage and vehicles should be searched with metal detectors and other technological devices (such as baggage scanners, back-scatter x-rays, etc).

D. Vehicle and Pedestrian Search Areas

At the search area, guards search vehicles and personnel; primarily looking for explosives and weapons that have been deliberately hidden in a vehicle.

- **Designing the Search Area**

- **Staging Area:** Enough space should be available for vehicles awaiting search. Personnel awaiting search should not be able to observe the search procedures.
- **Blast Mitigation:** Berms, sand-bagged Texas/Alaska barriers, or Hesco bastion barriers should be placed around the search pit to protect nearby personnel from fragmentation should a bomb-laden vehicle explode while being searched.
- **Obscured Search Area:** Berms, camouflage netting, or other types of screening should be used to obstruct observation of the search area from personnel outside the compound.

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- o **Driver and Passenger Holding Area:** The driver and passengers of a vehicle should be staged where they cannot observe search procedures. This holding area should not protect the driver and passengers from an explosion. Drivers and passengers should be kept under constant observation by an armed guard not involved in searching the vehicle.
- o **Ramps/Pit:** Vehicle ramps or a mechanic's pit will allow searchers the most effective means to visually inspect the undercarriages of vehicles. This method is the only way to thoroughly search the underside of small or low-riding vehicles.
- o **Mirrors:** Though less thorough than vehicle ramps or pits, mirrors can be used to detect poorly or hastily concealed explosives placed near the outer edges of a vehicle.
- o **Floor:** The floors of search areas should be flat and hard to allow inspectors to crawl underneath vehicles on a creeper. Flooring which would create a suitable surface is asphalt, concrete, AM2 matting, or plywood.
- o **Illumination:** Search pits should be well illuminated to allow searchers to see all portions of the vehicle. Lighting mounted on ramps or in a mechanic's pit will help searchers conduct detailed underbody searches. Guards should have flashlights or extension lamps available for use.
- o **Closed Circuit Television (CCTV):** CCTV can record vehicles entering ECPs for observation by another post and for later review. Ensure cameras are positioned to prevent vehicle or perimeter lights from blinding the camera. Cameras placed outside should be protected from the environment.
- o **Electronic Bomb Detection Devices:** There are many commercially available bomb detection devices available such as x-rays utilizing backscatter or transmission imaging which can be used at ECPs to augment bomb detection capabilities.

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- o **Entrapment Area:** Vehicle search areas should be protected on both sides by a pair of anti-vehicle barriers in order to create an entrapment area within the vehicle search area. Procedures that can be used to conduct a detailed search:
 - Guard raises entrance barrier to allow a vehicle(s) into search area.
 - Search team examines the vehicle.
 - Exit barrier is raised and vehicle leaves search area.
 - Only one barrier (entry or exit) is raised at a time, this creates the entrapment area, denying un-searched vehicles the opportunity to bypass the search by driving straight through.

E. Overwatch Position

The overwatch for an ECP is a manned position that provides observation and the ability to employ deadly force against vehicles that attempt to bypass, ram, or otherwise run through an ECP.

The overwatch position is located proximate to the final barrier to facilitate guard response to a "gate runner" vehicle. When entry controllers notify the overwatch of an unauthorized entry, the overwatch reacts to stop the vehicle before it enters the compound.

An asphalt or otherwise paved pad should be provided at the overwatch location to accommodate an overwatch facility. A utilities/communications stub should be provided for this facility. Provide the following in the overwatch facility:

- heat and/or air conditioning
- electrical outlet
- telephone
- writing/desk surface
- 360-degree visibility from both a sitting and standing position
- barrier device controls

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The overwatch should be equipped with a weapon that can stop a vehicle by disabling it or killing the driver. Because a 7.62 mm machine gun is not likely to disable a large vehicle, the gunners should be trained to focus on the driver of hostile vehicles.

Machine guns are most effective when fired from a tripod mount, which provides a stable and relatively lightweight base that is far superior to a bipod. The T&E provides controlled manipulation and the ability to accurately engage targets in a predetermined area. The overwatch should be planned and designed with the same considerations as an ambush; "fix the enemy in place so you can kill him." First, establish a "kill zone" where the overwatch will engage the hostile vehicle. Second, place barriers to slow down and keep the hostile vehicle in the "kill zone" as long as possible. Third, position the overwatch to provide effective engagement of the target in the "kill zone". Once the kill zone is established, the field of fire should be evaluated out to the maximum range of the weapon system to determine the risk to friendly guard posts and host nation buildings and personnel possibly in the fan. Finally, some weapon systems have a required minimum range to activate the round. Ensure the kill zone is beyond that minimum range for all weapon systems designated for the overwatch position.

The weapon's engagement area should readily define engagement criteria for the gunner. Barriers around the search area should force the driver to ram through a gate or barrier, clearly demonstrating hostile intent to the overwatch. The overwatch weapon should require minimal T&E adjustments in order to continually bring fire on the "kill zone".

F. Exit

An active barrier should be used to maintain positive control over an exit and to prevent someone from entering the base through the exit. The active barrier should be bounded by measures such as serpentines and speed bumps that will slow vehicle traffic from both outside and inside the compound before it reaches the active barrier. The

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guard at this post should ensure departing personnel exchange badges for their personal ID; visitor and contractor passes should be collected and accounted for and individuals should be logged out.

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Appendix C: Standoff

Standoff is defined as the distance from the exterior (attack) side of a secured perimeter wall or fence to the exterior wall of a facility or building.

The standoff zone, also referred to as the setback area, is the second tier of defense and includes that space between the outer perimeter of the site and the exterior walls of the building. Standoff zones provide time delays, and, significantly, abatement of blast effects. All explosive effects decay with increased distance; therefore, it is essential to maximize the depths of standoff zones whenever possible. While new facilities are constructed to provide protection from the effects of blast, existing and newly acquired facilities or office buildings were not, thus standoff/setback remains of critical importance in providing blast protection. While the setback area need not necessarily be devoid of planting and outbuildings (except in the clear zones) care should be taken to clear the area of cover and concealment possibilities as much as possible. Standoff zones normally include protective lighting, alarm systems, and a planned reaction force or roving guards.

A thinner wall will generally suffice, if the standoff exceeds 100 feet (30 meters). Conversely, a smaller standoff distance will normally necessitate the construction of thicker walls.








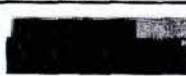







Thought should be given to what the size of threat an area or compound might have to survive. If larger commercial vehicles have access to any particular area, more standoff is required.

Referencing the appropriate physical security standards materials for a given area or site is the proper way to determine the minimum requirements.

The following references are provided to help determine minimum standoff required at a given site. Reference the one which is most applicable.

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Improvised Explosive Device (IED) Safe Standoff Distance Cheat Sheet

High Explosives (NT Equivalent)	Image	Item Description	Explosive Mass (NT equivalent)	Building Destruction Distance	Outdoor Destruction Distance
		Pipe Bomb	5 lbs 2.3 kg	70 ft 21 m	850 ft 259 m
		Suicide Belt	10 lbs 4.5 kg	90 ft 27 m	1,080 ft 330 m
		Suicide Vest	20 lbs 9 kg	110 ft 34 m	1,360 ft 415 m
		Briefcase/Suitcase Bomb	50 lbs 23 kg	150 ft 46 m	1,850 ft 564 m
		Compact Sedan	500 lbs 227 kg	320 ft 98 m	1,500 ft 457 m
		Sedan	1,000 lbs 454 kg	400 ft 122 m	1,750 ft 534 m
		Passenger/Cargo Van	4,000 lbs 1,814 kg	640 ft 195 m	2,750 ft 838 m
		Small Moving Van/Delivery Truck	10,000 lbs 4,536 kg	860 ft 263 m	3,750 ft 1,143 m
		Moving Van/Water Truck	30,000 lbs 13,608 kg	1,240 ft 375 m	6,500 ft 1,982 m
		Semitrailer	60,000 lbs 27,216 kg	1,570 ft 475 m	7,000 ft 2,134 m
Liquefied Petroleum Gas (LPG - Butane or Propane)	Image	Item Description	LPG Mass/Volume	Proball Diameter	Safe Distance
		Small LPG Tank	20 lbs/5 gal 9 kg/19 l	40 ft 12 m	160 ft 48 m
		Large LPG Tank	100 lbs/25 gal 45 kg/95 l	69 ft 21 m	276 ft 84 m
		Commercial/Residential LPG Tank	2,000 lbs/500 gal 907 kg/1,893 l	184 ft 56 m	736 ft 224 m
		Small LPG Truck	8,000 lbs/2,000 gal 3,630 kg/7,570 l	292 ft 89 m	1,168 ft 356 m
		Semitanker LPG	40,000 lbs/10,000 gal 18,144 kg/37,850 l	499 ft 152 m	1,996 ft 608 m

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- (1) Based on the maximum amount of material that could reasonably fit into a container of vehicle. Variations are possible.
- (2) Governed by the ability of an unreinforced building to withstand severe damage or collapse.
- (3) Governed by the greater of fragment throw distance or glass breakage/falling glass hazard distance. These distances can be reduced for personnel wearing ballistic protection. Note that the pipe bomb, suicide belt/vest, and briefcase/suitcase bomb are assumed to have a fragmentation characteristic that requires greater distances than an equal amount of explosives in a vehicle.
- (4) Assuming efficient mixing of the flammable gas with ambient air.
- (5) Determined by U.S. firefighting practices wherein safe distances are approximately 4 times the flame height. Note that an LPG tank filled with high explosives would require a significantly greater standoff distance than if it were filled with LPG.

For United Nations Offices, view the UN Minimum Operations Security Standards; this particular excerpt is Iraq specific. (Baghdad, Erbil, and Basrah)

- Minimum 50 meters standoff from building exterior to perimeter. Minimum 6-meter clear zone extending from protected side of perimeter barrier.
- Compound access control with guard booth, personnel and package screening, walk through metal detector, 2.75 meter high fence. This area must be located at the perimeter (50 m) entrance and protected by anti blast material

For Ministry Facilities use Department of State 12 FAH-6 H-111.6 Physical Security (Sole Occupant of Building or Compound)

(U) New office buildings and newly acquired buildings will be provided a minimum standoff distance of 100 feet (30 meters) between the protected side of the perimeter barrier and the building exterior. Existing office buildings will be provided a minimum standoff distance of 100 feet (30 meters) to the maximum extent feasible.

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For Department of Defense and United States Military sites, view UFC 4-010-01. These are the Applicable tables of reference:

Minimum Standoff Distances for New and Existing Buildings

Location	Building Category	Standoff Distance or Separation Requirements			
		Applicable Level of Protection	Conventional Construction Standoff Distance	Effective Standoff Distance (1)	Applicable Explosive Weight (TNT)
Controlled Perimeter or Parking and Roadways without a Controlled Perimeter	Billeting	Low	45 m (148 ft.)	25 m (82 ft.)	I
	Primary Gathering Building	Low	45 m (148 ft.)	25 m (82 ft.)	I
	Inhabited Building	Very Low	25 m (82 ft.)	10 m (33 ft.)	I
Parking and Roadways within a Controlled Perimeter	Billeting	Low	25 m (82 ft.)	10 m (33 ft.)	II
	Primary Gathering Building	Low	25 m (82 ft.)	10 m (33 ft.)	II
	Inhabited Building	Very Low	25 m (82 ft.)	10 m (33 ft.)	II
Trash Containers	Billeting	Low	25 m (82 ft.)	10 m (33 ft.)	II
	Primary Gathering Building	Low	25 m (82 ft.)	10 m (33 ft.)	II
	Inhabited Building	Very Low	10 m (33 ft.)	10 m (33 ft.)	II

(1) Even with analysis, standoff distances less than those in this column are not allowed for new buildings, but are allowed for existing buildings if constructed/retrofitted to provide the required level of protection at the reduced standoff distance.

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Minimum Standoff Distances and Separation for Expeditionary and Temporary Buildings

Location	Building Category	Standoff Distance or Separation Requirements			
		Applicable Level of Protection	Fabric Covered Structures (1)	Other Expeditionary and Temporary Structures (2)	Applicable Explosive Weight (TNT)
Controlled Perimeter or Parking and Roadways without a Controlled Perimeter	Billeting	Low	31 m (102 ft.)	71 m (233 ft.)	I
	Primary Gathering Building	Low	31 m (102 ft.)	71 m (233 ft.)	I
	Inhabited Building	Very Low	24 m (79 ft.)	47 m (154 ft.)	I
Parking and Roadways within a Controlled Perimeter	Billeting	Low	14 m (46 ft.)	32 m (105 ft.)	II
	Primary Gathering Building	Low	14 m (46 ft.)	32 m (105 ft.)	II
	Inhabited Building	Very Low	10 m (33 ft.)	23 m (75 ft.)	II
Trash Containers	Billeting	Low	14 m (46 ft.)	32 m (105 ft.)	II
	Primary Gathering Building	Low	14 m (46 ft.)	32 m (105 ft.)	II
	Inhabited Building	Very Low	10 m (33 ft.)	23 m (75 ft.)	II
Structure Separation (1)	Separation between Structure Groups	Low	18 m (59 ft.)	18 m (59 ft.)	III (2)
	Separation between Structure Rows	Low	9 m (30 ft.)	9 m (30 ft.)	III (2)
	Separation between Structures in a Row	Very Low	3.5 m (12 ft.)	3.5 m (12 ft.)	III (2)

- (1) Applies to Billeting and Primary Gathering Structures only. No minimum separation distances for other inhabited structures.
 (2) Explosive for building separation is an indirect fire (mortar) round as a standoff distance of half the separation distance.

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Appendix D: Security Lighting

Lighting systems for security operations provide illumination for visual and closed circuit television (CCTV) surveillance of boundaries, sensitive inner areas, and entry points. When CCTV is used as part of security operations, the lighting system will be coordinated with the CCTV system. The installation environment and the intended use determine the type of lighting system. Often two or more types of lighting systems are used within a single area.

The fundamental objective is that any system or combination of systems must always work to the maximum advantage of the security force and to the maximum disadvantage of the aggressor. The system will ensure a high probability of detection of unauthorized entry attempts and will thereby discourage aggressors. Lights will be spaced and located to minimize the impact of a single lamp failure. Lighting system design will be reliable and easily maintainable.

Where installed on airfields, security lighting must be coordinated with the flight safety officer so that aircraft takeoff, landing, and ground operations are not impaired. Airfield security lighting will be coordinated with airfield navigational lighting. Avoid glare lighting, which interfere with the vision of occupants of adjacent areas and roadways.

TYPES OF AREAS:

Four distinct types of areas to be lighted. These areas are boundaries, sensitive inner areas, entry points and confined areas.

a. Boundaries: The boundary is considered the perimeter fence. If there is no fence, the property line is the boundary.

- An isolated fenced boundary consists of fence lines around a large isolated facility where the area outside the fence is clear of obstructions for 100 feet or more, and the fence is at least

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100 feet away from any inner buildings or operating areas.

- A semi-isolated fenced boundary consists of fence lines where the area outside the fence is clear for only 60 to 100 feet.
- A non-isolated fenced boundary consists of fence lines where the fence is adjacent to operating areas within the installation or to public thoroughfares or other installations outside the boundary. The width of the lighted area depends on the clear distances available.

b. Sensitive Inner Areas:

- A sensitive inner area is a storage or open workspace inside a lighted boundary where additional security lighting is required, particularly for aisles, passageways, and vantage points of adjacent buildings.
- A sensitive inner structure is either within 20 feet of critical operations or houses critical operations (such as structures or buildings for power, heat, water, communications, explosive materials, critical materials, delicate machinery, classified material, and valuable finished products) where additional security lighting is required so that doorways, windows, and insets will not be in shadow.

c. Entry points: An entry point is where access to protected areas requires complete inspection of pedestrians, passenger cars, trucks, and freight cars entering or leaving.

d. Confined Areas: Because confined areas offer a place to hide, a shorter length of time is available to detect an aggressor. In these areas, illumination will be at higher levels and uniformly cover all surfaces requiring observation.

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Security Lighting Requirements						
Application			Illumination width feet		Minimum illumination	
Type	Lighting	Area	Inside	Outside	lux(a)	Location
Boundary	Glare	Isolated	25	100	2 (0.2) (b)	Outer lighted edge & 30 ft. out
			10	70	4 (0.4)	At fence
	Controlled	Semi-isolated	10	70	2 (0.2)	Outer lighted edge
					4 (0.4)	At fence
	Controlled	Non-isolated	20-30	30-40	4 (0.4)	Outer lighted edge
					5 (0.5)	Within
Sensitive inner area	Area	General	All	-	2-5	Entire area
					(0.2-0.5) (c)	
		At structures	50	-	10 (1)	Out from structure
Entry point	Controlled	Pedestrian	25	25	20 (2)	Entry pavement and sidewalk
		Vehicular	50	50	10 (1)	

NOTES:

- a. Horizontal plane at ground level (6 inches above grade) unless otherwise noted. Footcandles are shown in parentheses.
- b. Vertical plane, 3 feet above grade.
- c. Use the higher value for the more sensitive or confined areas.
- d. Initial field measurements will be multiplied by light loss factors to determine the maintenance levels.

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LIGHTING GUIDELINES:

a. CCTV lighting. When CCTV is used as part of the exterior security system, coordinate the design of the lighting system with the CCTV to ensure proper operation of the CCTV system during hours of darkness.

- *Balanced lighting.* A scene that is uniformly illuminated obtains the best image contrast. A CCTV outdoor lighting system must illuminate the entire surveillance area within a single camera's field of view so that the maximum light-to-dark ratio does not exceed 6 to 1, while providing the minimum faceplate illumination level required by the camera throughout the camera's field of view.

- *Camera and light source alignment.* The camera must be located below the plane of lighting fixtures used to illuminate the area. If side lighting is used, the camera should not look directly into the lighting plane. Aim the lighting fixtures and camera in the same direction.

- *Spectral compatibility.* There are many different types of CCTV cameras available for exterior use. Each type of camera has a specific spectral response. It is important that the spectral output of light sources used for exterior lighting in conjunction with CCTV systems match the spectral response of the CCTV cameras.

b. Intensities. The type of lighting system, area to be covered, and minimum levels of illumination are shown in the table above, except where exceeded by other requirements and applicable criteria. Typical applications of security lighting systems are shown above. The illumination levels in the table are minimum maintained measured at any point at any time. These levels include the lamp lumen depreciation, fixture maintenance factors, and other applicable light loss factors.

c. **Quality of illumination.** The illumination uniformity ratio of the maximum to the minimum at any point to ensure adequate quality of lighting for visual assessment by security personnel will be provided. The ratio in the entire clear zone outside the perimeter fence will not exceed 10 to 1 and within a 30-foot inner area will not exceed 6 to 1. Area lighting will not exceed a 6 to 1 ratio.

d. **Design considerations.** During design, consider field conditions that could affect or degrade performance. These conditions include extreme temperatures, dust, corrosion, uneven terrain, obstructions, and irregular line voltages. Design illumination level should be set above the criteria minimums and be increasingly conservative where one or more field conditions are uncontrolled.

LIGHT SOURCES:

When designing system for CCTV, coordinate the restart capability with the user. In some cases, security regulations require instant restart. High intensity discharge (HID) lamps are more energy conserving than incandescent lamps, but they require several minutes to warm up and restart after a power interruption. The warm-up time to reach 80 percent of normal output will require a few minutes or more. Restarting takes a minute for high-pressure sodium (HPS), but requires longer intervals for other HID sources. Specially designed lamps and auxiliary equipment are available where rapid start is required. Low-pressure sodium (LPS) lamps require 7 to 15 minutes to start, but most lamps will restart immediately after a power interruption. Fluorescent and the higher wattage LPS lamps cannot be provided with the type of directional control needed for protective lighting systems, but may be used where such control is unnecessary, such as at guardhouses. Either HPS lamps or incandescent lamps are acceptable, but the energy savings that HPS lamps provide make their installation preferable. Use incandescent lamps only when a life cycle cost analysis indicates such a source is the most economical choice or when required by operational considerations. The instant-on characteristic of incandescent lighting is a major factor in favor of its

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use. When lighting remains "off" during normal nighttime conditions, but is turned "on" during alerts, such as in the use of searchlights, the 5- to 10-minute warm-up time for HPS units cannot be tolerated, which results in incandescent lighting being the only practical alternative. Tungsten-halogen incandescent lamps, also known as quartz-iodine, with a longer lamp life than the conventional tungsten type, should be considered for incandescent lamp applications where appropriate. Very near infrared (VNIR) lighting used together with infrared sensitive CCTV cameras has been used to detect an aggressor without the aggressor's knowledge. VNIR is useful where visible light would be a problem (such as a flight line).

NOTE: Avoid LPS lamps where accurate color rendition is required because they have a monochromatic spectrum. A one-third mix of another light source mixed with LPS may be used when color rendition is a factor.

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Appendix E: Security

The primary responsibility of security forces is the defense of the compound and protection of the personnel and resources within. In order to accomplish this mission, security forces must understand some basic concepts.

Defense: A coordinated effort by a force to defeat an attacker and prevent him from achieving his objectives.

Purpose of Defense:

- Defeat the Enemy
- Gain Time
- Concentrate Forces Elsewhere
- Control key and Decisive Terrain
- Wear Down Enemy as a Prelude to Offensive Operations
- Retain Strategic, Operational, or Tactical Objectives

Defense-in-Depth Concept: The sighting of mutually supporting defense positions designed to absorb and progressively weaken an attack, prevent initial observations of the whole position by the enemy, and to allow the security supervisor to maneuver his quick reaction force.

Security Posting:

Security forces support the compound's operational resources and resources that directly support the operational mission. They form the major capability for detecting, responding to and neutralizing hostile actions under normal and emergency conditions. Security forces may vary in size depending upon the mission and size of the compound. Guards must know their individual responsibilities and must also have a working knowledge of all positions within the security department.

- Observation Posts:

Security forces performing duties as an observation post are responsible for providing early warning of enemy activity. These posts should be positioned

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along likely enemy avenues of approach and should provide direct observation of all forward obstacles. Observation posts should be positioned close enough to each other to provide mutual support and observation.

- Access Control:

Access control personnel regulate vehicle and pedestrian entry at assigned posts. Personnel assigned to this duty verify requests for visitor entry and issue visitor passes. Access control personnel may search and inspect personnel and vehicles, as directed by higher authority.

The foundation for a successful access control program is solid training. Access control personnel should be highly motivated, articulate individuals who display a professional image. Initial training should emphasize the ability to communicate with the public and professionalism. Establish a training and knowledge enrichment program which includes, but is not limited to, courtesies, human relations, dealing with the public, dress and appearance and a comprehensive knowledge of the compound's layout.

Access control personnel are the first line of security for the compound. The threats by terrorists are often predicated on surveillance and preparations by potential terrorist groups. Access control personnel should be vigilant and be on the look out for tests of security and surveillance by the terrorist entities.

- Patrols:

Guard forces patrol to provide protection for personnel and resources, and to provide a means of detection. Primary duties as a security patrol include: protecting personnel and property, preventing pilferage, supervising road traffic, maintaining good order, furnishing information and directions, performing escorts and building checks. Although these duties occur day-to-day and may appear

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routine, they must not be accomplished in a haphazard manner. Personnel performing patrol duties must be constantly alert, as there will normally be little or no warning when an emergency occurs.

The use of a specific type of patrol is tailored to the needs of the compound. Some situations may call for the use of internal and/or external patrols. Some compounds may only require walking patrols while others may require motorized patrols.

- Security Control Center:

Security controllers direct security forces during normal and emergency security operations. Persons assigned to this position must be of the highest caliber because the job is one of the most demanding and critical in the security forces career field. Security controllers have the following responsibilities:

- Operate the communications console and equipment.
- Plot the locations of all security forces and priority resources.
- Accomplish required reports and other administrative duties.
- Focal point for command, control, and communications for all security functions.
- Responsible for operating the communications network, monitoring resource protection alarms, and documenting all incidents throughout the shift.

The security controller is the primary point of contact for the public; taking initial action regarding all reported incidents or emergencies.

- Quick Response Force:

Simply put, the QRF is the security supervisor's reserve to provide rapid response to unusual or hostile situations. What it does is based on the known threat, doctrine, past operations, the scheme of

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defense, the mission and intent as defined by the site supervisor, analysis of the mission and intent, and the composition of the QRF. The size of the QRF can vary from a fire team to a squad size element (4-13 personnel). QRF personnel should have a variety of individual and crew-served weapons (i.e. AK-47s, PKs, PKMs, RPKs, RPDs, etc.) and equipment (i.e. NVGs, spotlights, radios). Response times for QRFs should range from 5-15 minutes.

- Security Supervisor:

A security supervisor oversees supervision of each shift. They are responsible for the training, equipping, conduct and welfare of the shift. They must know each person assigned to the shift, especially his/her strengths and weaknesses. They are responsible for the basic operation and administrative functions of the shift.

Supervisors should: arrive 30 minutes prior to the start of their shift; confer with the supervisor being relieved; review blotters from previous shifts; get a thorough briefing on the current status of security operations; check the status of vehicles, communications equipment, availability of grid maps, checklists and any other equipment their personnel will need during their tour of duty.

Supervisors should check each posted guard at least once during their shift.

Note: In some large compounds, there may be a need for assistant supervisors (or area supervisors), who are responsible for the operation of a portion of the overall compound.

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Appendix F: Circulation Control

Establish a circulation control plan at each compound/installation to include vetting of personnel and vehicles, secure parking, delivery and service area, entry authorization list, restricted areas, lock and key control, badge identification, visitor control, and escorts.

PERSONNEL ENTRY TO COMPOUND/INSTALLATION

Employees: Grant employees access to the compound/installation based upon organizational identification card. Avoid personal recognition! Recently fired employees (or employees who quit) may be recognized but are no longer authorized access - guards may not be informed prior to their next attempted entry.

Contractors/Visitors:

- Long-Term: These personnel require entry to the compound/installation in excess of 90 days.
- Short-Term/Single Visit: These personnel require entry to the compound/installation for less than 90 days.

US Military: Grant US military personnel access based upon a military identification card and need for access.

Coalition Military: Grant coalition military personnel access based upon a military identification card and need for access.

ESCORT PROCEDURES

Create a standardized policy and training program for escorts; only personnel who have completed this training should be granted escort authority.

At a minimum the training program and policy should include:

- Ensure that they know: their role and responsibilities, off limits areas, check in procedures, etc.

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- Escorts must maintain positive control of their visitor at all times. Meet visitors at the compound/installation entry point and return them to the entry point upon termination of the visit.
- Escorts may only escort a number of personnel that they can reasonably control (normally the upper limit is eight personnel.)
- Escorts are responsible for the conduct of their visitors.

IDENTIFICATION BADGES

All personnel on the compound/installation should display their badge at all times. Personnel without a displayed badge should be stopped, identified and either re-informed of the policy or escorted out of the area and turned over to the Iraq Police.

Employee Badges: Indicate the following information on all identification badges:

- Name
- Picture
- Expiration Date
- Barcode
- Access Authorization (indicate areas)
- Badge Number
- Biometric Device (fingerprint, signature, etc)

Consider utilizing different color badges (or different colored bars on badges) to indicate access area/level, escort authority, etc.

Contractor/Visitor Badges:

- Consider granting long-term visitors/contractors a limited access identification badge. Limited access badges should indicate days of the week, hours of the day, contract/visit termination date, and location(s) the visitor is authorized access to.
- Issue short-term visitors/contractors a temporary identification badge each time they enter the compound/installation.

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- If color is utilized, use a distinctive color for contractor/visitor badges so they are recognizable from a distance.

Detain all contractors/visitors located inside of the compound without an escort. Immediately conduct a check of the area where the individual was located, and then escort the individual to the pedestrian entry point. At the entry point, identify the escorting authority for removal of their escort privileges.

ENTRY TO COMPOUNDS/FACILITIES

Compound Entry Points:

Vehicle: Limit vehicle entry to employees, authorized delivery/service trucks, and military tactical vehicles only.

Equip the vehicle search area with portable, air sensing, ion scanning devices. In lieu of bomb-detecting canines, these devices will provide a detection capability especially for large delivery vehicles where unloading is not practical.

NOTE: Allow entry to delivery vehicles through only one vehicular entry point.

Pedestrian: Equip the pedestrian search area with walk-through metal detector archways, baggage inspection equipment, and Ion Scanners inside of the personnel search area.

Facility Entry Points: Limit the number of facility entry points. Secure all doors, not required for entry, from the inside without restricting utilization during emergencies.

All facility entry points should be equipped with metal detector archways, baggage scanners and armed guards. At a minimum, guards should be equipped with radios, hand-held metal detectors, and less-than-lethal force options.

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LOCK AND KEY CONTROL

The keys to facilities, storage areas, and gates should always be in the custody of vetted security/facility management personnel. Strictly control the issue of keys to employees. If contractors require a key(s) to perform their duties, sign them in/out daily from a central key control location. Log the issue of keys (permanent and temporary) on a control roster (maintain this roster indefinitely).

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Appendix G: Mitigating Glass Hazards

Secondary fragmentation from a blast is often a greater source of injury than the primary fragmentation or the blast wave. Studies have shown that glass shards cause up to 80% of the injuries from bomb blasts. The bombings in Kenya and at Khobar Towers in Saudi Arabia are prime examples of the terrible effects of glass fragmentation. There are a number of ways to mitigate the hazard, depending on the type of glass used, the overall construction of the building, including window frames, and the way the frame is built into the surrounding structure.

Glass shatters in a shotgun-like effect with fragments dispersing over a wide area. Statistically, flying glass accounts for more than 80% of the people injured and killed in a blast, and is typically the most deadly projectile.

Regardless of the mitigation strategy chosen, office space design and layout should be arranged such that personnel are not sitting in the direct line of flight of fragmented glass.

Of critical importance are the windows and furniture arrangement in the high-occupancy areas and primary sleeping quarters. These areas include the living and dining rooms, offices and bedrooms. These areas put occupants at risk of severe injuries in the event of explosions that result in windowpane failure.

Annealed glass, glass reinforced with wire, or heat strengthened glass afford the lowest level of protection, which by itself is insufficient. It is important to note that Plexiglas is not recommended at all, as it produces toxic fumes when burned.

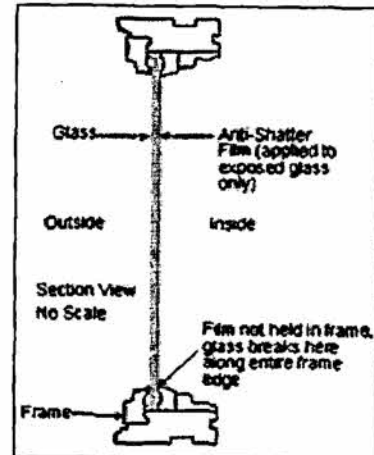
In order to protect occupants from glass hazards, all four major components of a glazing system (glazing, frame, anchorage and wall or supporting structure) must be engineered as a whole, based on the Required Blast Mitigation Standard.

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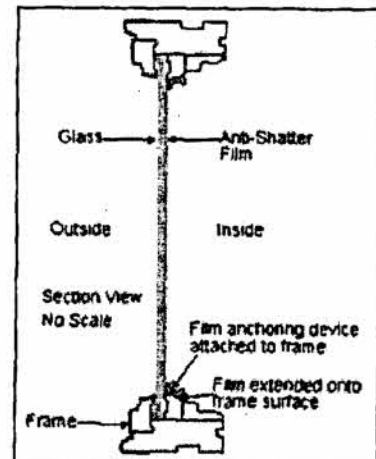
The following are several glass hazards mitigation measures.

1. Fragment Retention Film:

- FRF (Daylight application) is the least costly, most widely used application. A daylight application is where the film is attached to an existing windowpane. With skilled/qualified installers, this typically results in a minimum 1/16 inch gap around the perimeter of the window. This gap is the weakest portion of the pane, and is the most likely to fail under a blast load. An FRF daylight application CANNOT be used as a stand-alone solution. It must include either catcher bars or blast curtains. Walls and mountings must be specifically engineered to support catcher bars. Note: Observations of daylight applications across Iraq have found extremely poor workmanship. In most instances, the glass is not properly cleaned prior to installation resulting in large bubbles where the film has not adhered. Additionally, the film is often cut with jagged edges and is pieced together on large windowpanes.



- FRF (Wet Glazing application) is less prevalent than the daylight application and is selected when additional fragment protection is required. Wet glazing uses a structural silicon sealant to hold the FRF in place. It relies on the correct installation of an angle brace and the strength of the frame and the wall to hold the window in place. Blast curtains or catcher bars are still recommended.



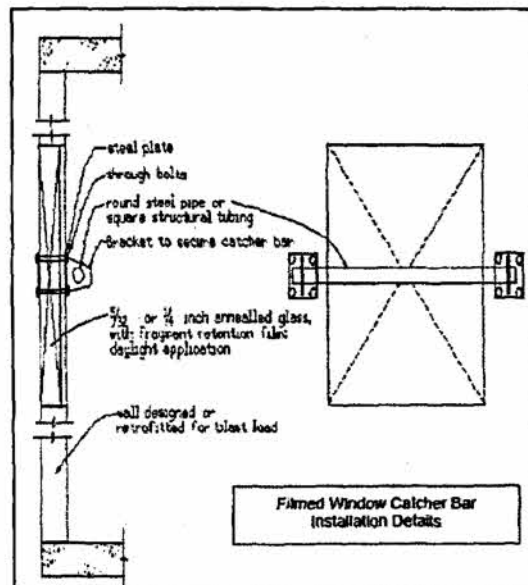
- FRF (Mechanical application) is also less prevalent than the daylight application. It has been tested to extremely high blast loads. It is used with fragment retention films at least 10

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mils thick, and retains the greatest number of fragments. Special care must be given to ensure that the strength of the window and frame does not exceed that of the mountings or wall. If it does, the entire window and frame may become dislodged. In this circumstance, blast curtains or catcher bars are required.

2. Catcher Bars:

- Catcher bars are only as good as the anchoring system and what they are anchored to. Existing buildings are rarely engineered with these elements in mind. If installed, ensure that the contractor completely adheres to the installation specifications. Failure to do so could result in the glass, frame and catcher bar becoming fragmentation. The installation of catcher bars for windows treated with FRF is essential to protect against the blunt force trauma that can be caused by a flying piece of Mylar covered glass. The bars should be mounted as near to the window as possible to ensure that dislodged glass is caught at the earliest possible moment, and at the slowest speed.



3. Blast Curtains:

- Blast curtains are typically constructed of high strength fibers such as Kevlar. Blast curtains can be used as a stand-alone glass hazard mitigation solution. One of the drawbacks to blast curtains has been that in order for them to be effective they had to be set so the user could not easily defeat them, e.g., pull the curtains aside. Newer blast curtains are available that are similar to commercial office drapes in that they are less conspicuous and do not advertise that protective measures are being taken. Newer drapes are more cost effective - offering thermal benefits, lighter weight, and allow light and air to pass through. Some anchorage systems are flexible enough to allow the user to open and clean windows and still use them as

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emergency egress routes. Workspaces still must be arranged so as to keep occupants from sitting directly in front of the windows, e.g., to allow blast curtains to expand during blast events. If blast curtains are not available, then heavy, multi-layer, full-length curtains can be used to afford a minimal level of safety. Although such drapes do not meet blast curtain standards, they do provide some protection: recent attacks demonstrate that heavy curtains can trap 20 to 30 percent of glass fragments.

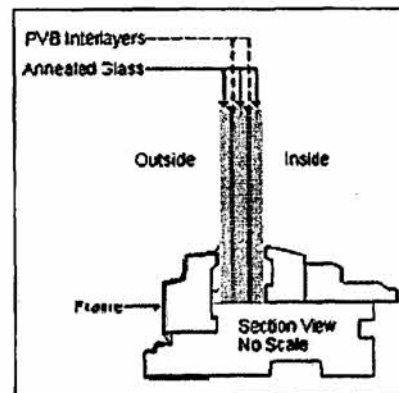
4. Hardened Glass:

- Tempered glass, glass blocks, laminated and polycarbonate glass provide higher levels of protection, but require thorough engineering analyses to ensure that the structural supports are adequate e.g., that the window and frame are not stronger than the window mountings and wall. Either the building or the connection between the frame and the building may need reinforcement.

- The use of tempered glass is an option. When exposed to a blast wave, tempered glass shatters into small particles that will not usually penetrate clothing. Although exposed skin will be cut, the injuries are typically not as severe as those caused by glass with lesser levels of protection. However, in sufficiently large explosions, tempered glass fragments will also penetrate clothing and cause severe injuries or fatalities.

- Glass blocks resist blast effects as would un-reinforced masonry because of their greater mass. Although glass blocks may become projectiles under larger blast pressures (similar to bricks), they are safer than a pane of glass.

- Laminated glass using annealed, heat strengthened, or tempered glass affords a very high level of protection. This involves laminating multiple (two or more) panes of glass, with a layer of polyvinyl butyral (PVB) between each pane. Thicker PVB interlayers provide more effective protection. Laminated glass is now being locally manufactured in Iraq.



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- Polycarbonates offer the very highest level of protection. Thick polycarbonate is also used for ballistic resistant glass.

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Appendix H: Retrofit of Facility Structure

In today's society, there is an increasing risk of terrorist attacks being carried out by radical groups, political separatists, and others who intend to injure and kill innocent people. Attacks of this nature can be carried out with relative ease by anyone who has intent. The most widely used type of device in such an attack is the improvised explosive device. The simplest of these devices consists of a container carrying fuel, an oxidizer, and a detonation device. Bombs are easily concealed and are commonly delivered by vehicle, in postal packages, and even on foot. Terrorist attacks commonly target populated facilities such as office buildings and restaurants, not to mention military and diplomatic facilities.

Most casualties and injuries sustained in such an attack are not caused by the blast itself, but rather by the disintegration and fragmentation of walls, the shattering of windows, and by unsecured objects that can be propelled at high velocities by the blast. Ensuring that the exterior walls of a structure are able to withstand a blast and not produce deadly fragments is a critical part of minimizing injuries to building occupants. Most existing buildings were not designed with blast loading in mind. Therefore existing exterior walls of high risk facilities must be strengthened to increase the resistance to blast loads. The resistance of a wall to blast loads can be enhanced in a number of ways, which include: spraying on of polyurea-based liner (available in multiple colors) to both the interior and exterior of all walls, ceilings and floors; installation of adhesive, geo-textile fabric, to the interior of existing walls; installation of metal, structural retrofit along the interior of all facility walls; or, adding an additional layer of concrete or CMU to the interior of all facility walls to increase structural integrity.

This appendix is designed to provide the reader with some basic information about the four options

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mentioned above, so that they may make an informed decision.

Polyurea-Based Sprays:

Elastomeric spray is a relatively new concept and uses a urea- or polyurea-based coating up to 15 mm thick applied directly to the rear face of an existing masonry wall. Once dry, the coating forms a tensile membrane enhancing the flexural capacity of the masonry significantly reducing spalling. The coating is relatively inexpensive but the wall must be prepared very thoroughly and considerable attention paid to the cleanliness of the masonry surface. The system has been exposed to blast pressures of up to 35 psi and impulses of 215 psi-ms successfully reducing spalling. For load-bearing walls and masonry panels with windows it may be necessary to fit a secondary component (e.g., expanded metal) to the internal face in order to redistribute the loads around critical areas.

Geo-textile Fabrics:

Using technology developed in the geo-techniques industry for the stabilization of weak soils, tests where geo-textiles have been secured to the rear of masonry walls and subjected to blast loads have been conducted. The fabrics (commercial names include Aramid, Kevlar, and Geo-fabric) have either been mechanically attached to the floors above and below or glued to the internal face of the masonry wall. In doing so, they act as a catcher system restraining spalled and broken masonry from entering the building envelope. While effective, considerable attention must be paid to securing fabric top and bottom or ensuring there is an effective bond between the fabric and the masonry. Further, special arrangements must be made for load-bearing walls and for walls with windows.

Un-reinforced masonry walls provide limited protection against air blast due to explosions. When subjected to overload from air blast, brittle un-reinforced CMU

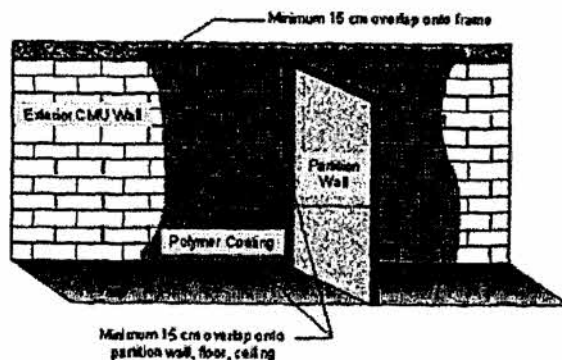
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walls will fail and the debris will be propelled into the interior of the structure, possibly causing severe injury or death to the occupants. This wall type has been prohibited for new construction where protection against explosive threats is required. Existing un-reinforced CMU walls may be retrofitted with a sprayed-on polymer coating to improve their air blast resistance. This innovative retrofit technique takes advantage of the toughness and resiliency of modern polymer materials to effectively deform and dissipate the blast energy while containing the shattered wall fragments. Although the sprayed walls may shatter in a blast event, the elastomer material remains intact and contains the debris.

The blast mitigation retrofit for un-reinforced CMU walls consists of an interior (and an optional exterior) layer of polyurea applied to exterior walls and ceilings. The polyurea provides a ductile and resilient membrane that catches and retains secondary fragments from the existing concrete block as it breaks apart in response to an air blast wave. The effectiveness of a spray-on polymer coating has been demonstrated through explosive testing at the Air Force Research Laboratory and by extensive numerical laboratory simulation.



Geo-textile fabric retrofit cross section.

Reinforcing Existing Masonry Walls:

The philosophy behind reinforcing existing masonry walls is to provide increased strength to resist out

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of plane loadings along with improved ductility and/or catcher (restraint) systems wherever possible. There are several ways of achieving this depending on the size of the threat, the type of wall (load-bearing or infill), and degree of fenestration.

- Structural Retrofit:

In some cases, it may not be possible to retrofit an existing building to limit the extent of collapse to one floor on either side of a failed column. If the members are retrofitted to develop catenary - the natural curve created by a flexible cord freely suspended between two fixed points - behavior, the adjoining bays must be upgraded to resist the large lateral forces associated with this mode of response. This may require more extensive retrofit than is either feasible or desirable. In such a situation, it may be desirable to isolate the collapsed region rather than risk propagating the collapse to adjoining bays.

The retrofit of existing structures to protect against a potential progressive collapse resulting from the detonation of a terrorist explosive threat may therefore best be achieved through the localized hardening of vulnerable columns. These columns need only be upgraded to a level of resistance that balances the capacities of all adjacent structural elements. At greater blast intensities, the resulting damage would be extensive and termed global collapse rather than progressive collapse. Attempts to upgrade the structure to conform to the alternate path method will be invasive and potentially counterproductive. Care must be taken not to weaken a structure in the attempt to make it more robust.

Conventionally designed columns may be vulnerable to the effects of explosives, particularly when placed in contact with their surface. Standoff elements such as partitions and enclosures may be designed to guarantee a minimum standoff distance; however, this alone may

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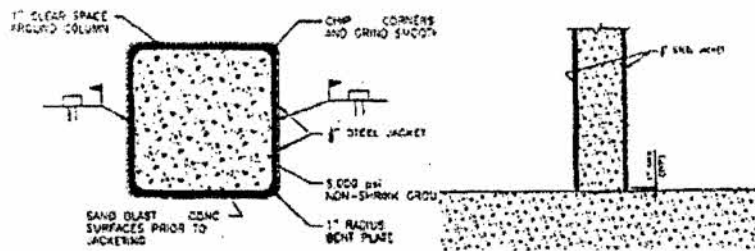
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not be sufficient. A steel jacket or a carbon fiber wrap may be used to provide additional resistance to reinforced concrete structures. These systems effectively confine the concrete core, increase the confined strength and shear capacity of the column, and hold the rubble together to permit it to continue carrying the axial loads. The capacity of steel flanged columns may be increased with a reinforced concrete encasement that adds mass to the steel section and protects the relatively thin flange sections. The details for these retrofits must be designed to resist the specific weight of the explosives and the standoff distance.

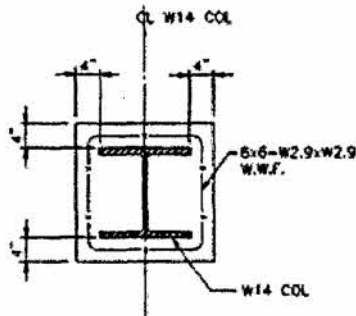
The floor slabs are typically designed to resist downward gravity loading and have limited capacity to resist uplift pressures or the upward deformations experienced during a load reversal. Therefore, floor slabs that may be subjected to significant uplift pressures, which may overcome the gravity loads and subject the slabs to reversals in curvature, require tension reinforcement at the top fiber of the mid-span locations and bottom tension reinforcement at the underside near the supports. If the slab does not contain this tension reinforcement, it must be supplemented with a lightweight carbon fiber application that may be bonded to the surface at critical locations. Carbon fiber reinforcing mats bonded to the top surface of slabs would strengthen the floors for upward loading and reduce the likelihood of slab collapse from blast infill uplift pressures as well as internal explosions in mailrooms or other susceptible spaces. This lightweight high tensile strength material will supplement the limited capacity of the concrete to resist these unnatural loading conditions. An alternative approach is to notch grooves into the top of the concrete slabs, and then to epoxy carbon fiber rods into those grooves. Although this approach may offer greater capacity, it is much more invasive and has not been evaluated with explosive testing.

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Left: Typical concrete jacketed column and Right: Section of typical steel jacketed concrete column



Typical steel column concrete encasement.

- Steel Column and Plate

This is a particularly robust form of retrofit technique in which a number of steel columns are secured behind the wall and connected into the building frame at the floor and ceiling level. Steel plates connect the flanges of the columns together producing an in situ tensile membrane capable of resisting loads of up to 50 psi. Ideally suited to where load-bearing walls must give support to the floor above, the internal surface preparation is minimal. However, the engineering is demanding and the installation process is intense particularly as each connecting weld. Steel column and plate must be sound and construction details can be problematic. The technique is therefore relatively expensive.

- Steel Stud Partition

Steel studs (as opposed to timber studs) are used in many forms of modern building construction and this technique capitalizes on their use. Vertical steel

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studs are fixed between floors and support reinforced gypsum board or laminated glass. This partition is then placed at least 300 mm inside the existing non-load bearing wall to act as a catcher screen. The system is easy to install and requires no surface preparation but can only be used for relatively light blast loads.

Retrofitted Reinforced Masonry:

Reinforced masonry is stronger and more ductile than un-reinforced and is capable of resisting relatively high out-of-plane loads (i.e., loads that act perpendicularly to the surface of the wall) depending on the level of reinforcement. Retrofitted reinforced masonry uses techniques developed in the building restoration industry where existing structural masonry is diamond-core drilled from the roof to the foundation and specially designed grout-inflated masonry anchors are installed and allowed to cure. The system has been tested to 126 psi and 285 psi-ms and can also be used to secure blast-proof windows within masonry walls combining window security with masonry strengthening.

Research has also shown that masonry walls with high levels of internal vertical loads (e.g., in multistory buildings) resist spalling better than those that are not load bearing (e.g., infill panels or single-story construction). Retrofitted reinforced masonry can also be post-tensioned after installation to increase the internal vertical stress and maximize spalling protection in low level masonry structures. The anchors are easily installed even in occupied buildings within the plane of the wall and are not visible once installation is complete. Further, retrofitted reinforced masonry can also be used in areas of high seismic risk where dynamic loads due to ground movement have to be resisted.

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- Internal Concrete Skin

There are certain situations where the blast load is so large that it is not possible to provide the required level of protection using the conventional retrofitted techniques described previously. In such cases, the only solution is to retrofit the building with an internal concrete skin. This is an effective but expensive solution.

A full structural analysis is required to determine whether it is necessary to underpin the foundations to resist the additional dead loads. Further, structural reinforcement may be required to strengthen the building frame to resist the huge dynamic loads likely to arise and prevent building collapse. Also, there will be loss of space inside the building equivalent to the thickness of the concrete skin and the necessary air gap behind the existing wall.

In such designs, the existing outer wall is assumed to fail under blast load and in doing so it will deflect inwards by a significant amount. The remains of the masonry wall and the blast wave then impact on and are resisted by the internal concrete wall.

- Durisol Block

A proprietary product known in the United States as Durisol Block provides a variation on the internal concrete skin. Made in Switzerland since the 1940s and in Canada since the 1950s, Durisol is basically a hollow concrete block made of mineralized wood shavings as the aggregate instead of sand and stone. This mixture is used to make stay-in-place wall forms for concrete structures, freestanding sound barriers, and other products.

Subject to the same limitations as internal concrete skin, Durisol Block provides an expedient solution to the problem of retrofitting masonry structures to resist the effects of explosions.

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Comparative Advantages and Disadvantages of Existing Masonry Wall Retrofit Systems						
System	Wall Type		Costs		Suitable for Windows?	Remarks
	Load-bearing	Infill	Product	Installation		
Steel column and plate	Yes	Yes	Med/High	Med/High	Yes	Requires very detailed design and may require complicated installation. Must provide load path to the foundations.
Steel stud partition	Yes	Yes	Low/Med	Med/High	Yes	Lower blast loads than above requiring detailed design and may require complicated installation. Must provide load path to foundations.
Elastomeric spray	Yes	Yes	Low	High	Yes	Requires extensive wall preparation and complete reprovision of internal building services. Special provision is required for load-bearing walls and around windows
Geo-textile	Yes	Yes	Low	High	Yes	As above
Retrofitted reinforced masonry	Yes	Yes	Med	Med	Yes	Buildings can remain occupied during installation process. Can also act as a seismic upgrade.
Internal concrete skin	Yes	Yes	High	High	Yes	Very robust—will resist the highest threat levels. Requires detailed design and reduces internal floor area. Must check foundation capacity.
Durisol Block	Yes	Yes	Med	Med	Yes	Similar to above, but for lower blast loads. Must check foundation capacity.

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Appendix I: Bunker Design Guidance

Excerpt from Air Force Handbook 10-222V14, Guide to Fighting Positions, Obstacles, and Revetments

OVERHEAD COVER CONSIDERATIONS:

To obtain much greater levels of protection from blast, fragmentation, and direct- and indirect-fired munitions, placing a reinforced or protective earth structure over the asset is necessary. While providing an expedient overhead cover may not be possible for all assets (such as aircraft), many situations exist where a protective overhead cover can be used with a revetment, a partially buried or bermed structure, or a bermed revetment. For indirect-fired weapons that have contact or delayed fuzes, additional support is required and information on the weapons is needed before field construction.

Structural Reinforcing: The amount of sandbag or earth cover necessary for direct- and indirect-fired weapons protection usually weighs more than a roof structure can withstand. Therefore cover materials have to be supported with additional structural members. Structural members span the opening and provide support for the cover materials. Some commonly available materials that can be used as structural members are timber, structural (dimensioned) lumber, structural steel, steel shapes, metal pipe, utility poles, and railroad ties. Sheathing is used between the structural members and the earth or sandbag cover to transfer the loads and keep loose materials from falling on personnel or assets. Commonly available materials used for sheathing are corrugated metal sheets, steel planking, AM-2 matting, plywood and OSB sheathing, and wooden boards.

Material availability depends on the location and the amount of time and transportation support available. Some of the most commonly available materials for expedient construction will be timber or lumber, either transported in or locally purchased on the economy. When available, raw timber can be used in lieu of dimensioned lumber for

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expedient construction. Table 11 provides a conversion for equivalent sizes of timber and dimensional lumber.

Table 1: Equivalent Sizes of Timber Compared with Dimensional Lumber

Cut Timber/Log Diameter (in inches)	Equivalent Size of Dimensional Lumber
5	4 x 4
7	6 x 6
8	6 x 8
10	8 x 8
11	10 x 8
12	10 x 10
13	10 x 12
14	12 x 12

Make sure, especially for the longer spans, that the timber is solid and does not have decay or rot damage. Freshly cut timber can bend or warp more than already seasoned timber or dried (dimensional) lumber. Freshly cut timber has a higher moisture content and may have only about 75% of the resistance to bending of dried or seasoned wood. Some softwoods (such as Norway Pine, numerous Cedars and Spruces, White Fir, and Hemlocks) also may have less than 75% of the bending resistance of other woods. When designing structures for thick earth covers and longer unsupported spans, if softwoods or green timber with a high moisture content will be used, consider decreasing the equivalent sizes for dimensional lumber to the next smaller size when determining allowable span lengths. This is especially important if the structure will be used for extended deployments.

Example: A fighting position will be used for at least 18 months during several rainy seasons. It is planned to use freshly cut 8-inch diameter Norway Pine to support 5 feet of earth cover for a 6 foot span to protect against 152-mm high explosive shells. While an 8-inch diameter log is normally equivalent to 6 x 8 dimensioned lumber, when using the design tables. Use at least the smaller size of lumber (i.e. 6 x 6) for making determinations for stringer span and spacing. This is because Norway Pine is a green softwood that will continue to be damp for long periods of use.

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Basic Design Guidance: There are three classes of weapons (i.e. direct fire, indirect-fired with contact fuzes, and indirect-fired with delayed fuzes) that normally require differing degrees of overhead protection.

For protection against small caliber direct-fired weapons and fragmentation, Tables 2 and 3 should be used as guidelines. Table 2 provides the allowable unsupported (span) distance for lumber members (called stringers) and the allowable on-center (OC) spacing between the lumber for supporting thickness of earth or sandbag cover. Figure 1 depicts the span distance, OC spacing for stringers, and depth of cover for a fighting position.

Figure 1. Stringer Distance/On-Center Spacing for Fighting Positions.

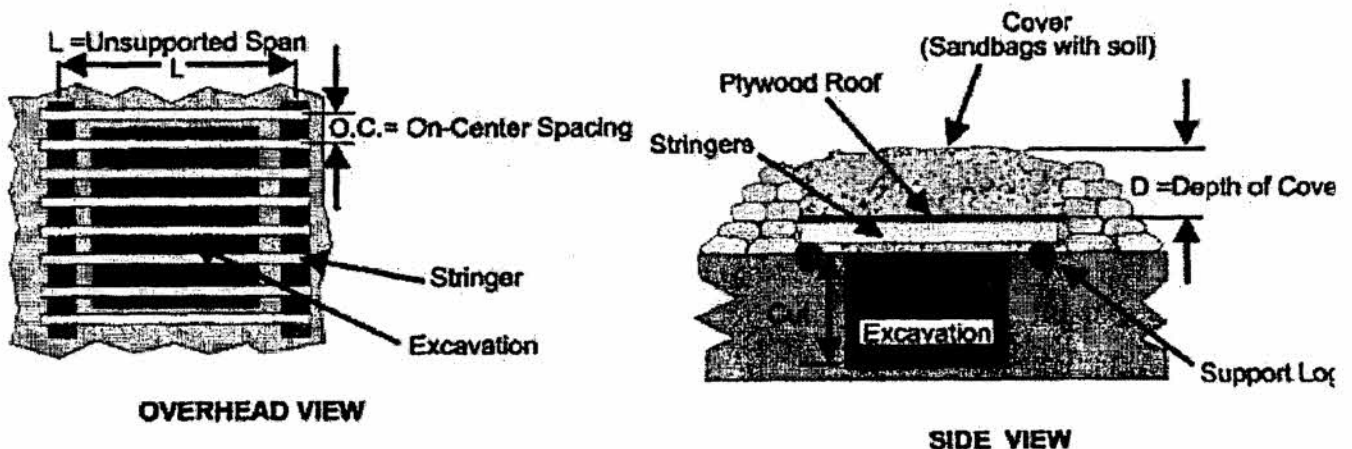


Table 2. Maximum Span and On-Center Spacing for Stringers

Thickness of Earth Cover (in Feet)	Maximum Span Length (in Feet)					
	2.5	3	3.5	4	5	6
1.5	40	30	22	16	10	<u>18</u>
2	33	22	16	12	8 or <u>20</u>	<u>14</u>
2.5	27	18	12	10	<u>16</u>	<u>10</u>
3	22	14	10	8 or <u>20</u>	<u>14</u>	8
3.5	18	12	8 or <u>24</u>	<u>18</u>	<u>12</u>	<u>8</u>
4	16	10	8 or <u>20</u>	<u>10</u>	<u>10</u>	<u>7</u>

OC spacing is for 2 x 4 stringers, except underlined values are for 2 x 6 stringers

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Table 3 provides the minimum thickness of wood sheathing or wood board (for nominal sizes) in inches that must be used over the stringers to distribute the weight of the earth or sandbag cover. It is used with the maximum unsupported (span) distance of lumber used in Table 2.

Table 3. Minimum Thickness of Sheathing over Stringers.

Thickness of Earth Cover (in Feet)	Maximum Span Length (in Feet)					
	2.5	3	3.5	4	5	6
1.5	1	1	2	2	2	2
2	1	2	2	2	2	3
2.5	1	2	2	2	2	3
3	2	2	2	2	3	3
3.5	2	2	2	2	3	3
4	2	2	2	2	3	4

For protection against heavier indirect-fired weapons with contact fuzes, the depth of soil and size of wooden support members must be increased. Table 4 provides design guidelines for protection from several characteristic weapons (i.e. mortars, rockets, and high explosive shells) with contact fuzes. It is based on the thickness of earth and sandbag cover and the span distance and spacing for stringers. The span distance is limited to the maximum of 18 inches to allow the use of standard sheathing thicknesses: 1-inch sheathing for 82-mm weapons and 2-inch sheathing for 120-mm, 122-mm and 152-mm weapons.

Table 4. Design Guidelines for Protection from Select Indirect-Fired Munitions (Contact Fuze)

Stringer Dimensions Nominal Size (in inches)	Thickness of Earth Cover (in inches)	Maximum Stringer Span Width (in feet)				
		2	4	6	8	10
		Maximum Stringer OC Spacing (in inches)				
Protection against 120-mm Mortar with 1" plywood sheathing						
2 x 4	2	3	4	4	4	3
	3	18	12	8	5	3
	4	18	14	7	4	3
2 x 6	2	4	7	8	8	6
	3	18	18	16	12	8
	4	18	18	18	11	7

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4 x 4	2	7	10	10	9	7
	3	18	18	18	12	8
	4	18	18	18	10	7
4 x 8	1.5	4	5	7	8	8
	2	14	18	18	18	18
	3	18	18	18	18	18

Stringer Dimensions Nominal Size (in inches)	Thickness of Earth Cover (in inches)	Maximum Stringer Span Width (in feet)				
		2	4	6	8	10
		Maximum Stringer OC Spacing (in inches)				
Protection against 82-mm Mortar, 120-mm Rocket and HE Shell with 2" plywood sheathing						
4 x 8	4	3.5	4	5	5	6
	5	12	12	12	11	10
	6	18	18	18	16	10
6 x 6	4	--	--	5.5	6	6
	5	14	14	13	12	10
	6	18	18	18	16	12
6 x 8	4	5.5	6	8	9	10
	5	18	18	18	18	18
8 x 8	4	7.5	9	11	12	13
	5	18	18	18	18	18
Protection against 152-mm HE shell – 2" plywood sheathing						
4 x 8	4	--	--	--	--	3.5
	5	6	6	7	7	7
	6	17	16	14	12	10
	7	18	18	18	15	11
6 x 6	4	--	--	--	--	3.5
	5	6	6	7	7	7
	6	18	18	15	12	10
6 x 8	4	--	--	--	--	5
	5	10	11	12	12	12
	6	18	18	18	18	17
8 x 8	4	--	--	--	--	8
	5	14	15	16	17	16
	6	18	18	18	18	18
NOTE: Where no value is shown for spacing choose the next greater thickness of earth cover						

NOTE: Where no value is shown for spacing choose the next greater thickness of earth cover

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Appendix J: Emergency Action Plan (EAP)

A formal emergency action plan is necessary to address potentially lifesaving actions during an emergency, and to clearly delineate and define roles and responsibilities for post incident response. The sample plan provided is only a guide; it **not** meant to be a template. Feel free to modify the plan to fit the needs of the compound.

NOTE: Senior officials should include consequence management preparedness and response measures as an adjunct to the compound Emergency Action Plan. Consequence Management measures should include emergency response and disaster planning and/or preparedness to respond to a terrorist attack for compound engineering, logistics, medical, mass casualty response, transportation, personnel administration and local and/or host nation support.

SAMPLE PLAN

Copy no. ____ of ____ Copies

Compound Name

Location (include MGRS)

Date/Time Group

(COMPOUND NAME) EMERGENCY ACTION PLAN

Task Organization. Include all sections/personnel responsible to implement the plan. Include as a separate Annex.

Maps/Charts: List all applicable maps or charts. Include enough data to ensure personnel are using the correct year/edition/version of the subject material.

Time Zone: Enter the time zone of the compound. Indicate the number of hours to calculate (plus/minus) ZULU time.

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References: Enter the compilation of pertinent publications, references, Memorandums of Agreement/Understanding. This list may be included in a separate Annex.

1. SITUATION

- a. General. This plan applies to all personnel assigned or attached to the compound. (Describe the political/military environment in sufficient detail for employees to understand their role during emergencies.)
- b. Enemy. The enemy is any adversary capable of threatening the compound's personnel, facilities, and equipment. (Enter the general threat of terrorism to this compound including the intentions and capabilities, identification, composition, disposition, location, and estimated strengths of hostile forces. Include the general threat of terrorist use of WMD against this compound. This information should remain unclassified when possible.) This information may be included as a separate Annex.
- c. Friendly. (List the forces available (both military and civilian) to respond to a terrorist attack. These units/organizations may include Host Nation (HN) and US military police forces, fire and emergency services, medical, engineers, and explosive ordnance disposal (EOD). Include Memorandums of Agreement/Understanding and any other special arrangements that will improve forces available to support the plan.) This information can be included in a separate Annex(s).
- d. Attachments/Detachments. (List compound/civilian agencies NOT normally assigned to the compound that are needed to support this plan. Explain interagency relationships and interoperability issues.) This can be listed in other Annexes.
- e. Intelligence. (List the person, staff, or section responsible for intelligence collection and

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dissemination. The senior compound official must have a system in place to access current intelligence.) This can be included in Annex B (Intelligence). [The Department of State provides country threat levels and threat assessments. Obtain these assessments, as they will serve as a baseline for the compound's tailored assessment. The compound should have a process in place for developing the compound's tailored threat assessment or "local threat picture." The compound's tailored threat assessment should be continuously evaluated, updated, and disseminated, as appropriate, and as directed by the senior compound official.]

2. MISSION. (Enter a clear, concise statement of the compound's mission. The primary purpose of the emergency action plan is to safeguard personnel, property, and resources during normal operations. It is also designed to deter a terrorist threat, enhance security and AT awareness, and to assign AT responsibilities for compound personnel.)

3. EXECUTION

a. Intent. (Senior compound official's vision on how he/she sees the execution of the consequence management program.)

b. Tasks. (Enter the specific tasks for each section or element Task Organization paragraph. The senior compound official should ensure that a specific individual/section within the compound is responsible for each action identified in this plan. Each individual/section must know the tasks and responsibilities, what these responsibilities entail, and how these will be implemented.) The following areas should be addressed in the plan:

(1) Physical security for operations sites
(hardening buildings, exclusion zones, counter mobility issues, key control, sensors, perimeter fields of observation, identification badge procedures, mail procedures, parking control, low profile techniques, perimeter

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checks, TCN control, exterior patrols, communication plan, deception plan, armory access, etc.)

(2) Physical security for billeting sites
(hardening buildings, bunkers, key control, parking control, low profile techniques, trash/maintenance, TCN control, reaction drills, etc.)

(3) Entry Control Points (ECPs) (vehicle search procedures and training, military working dog employment and care, visitor control, badge issue and accountability procedures, bulk materials/liquids handling, barriers, armed overwatch, blast mitigation, detailed schematic of ECP site, etc.)

(4) Transportation security (route plans, alternate routes, safe havens, communications, driver/passenger requirements, vehicle equipment, armor, armed escorts, low profile techniques, reporting requirements, etc.)

(5) Subsistence security (protection of food/water sources, origin of food/water, testing, contamination response, emergency supplies, etc.)

(6) Third Country National (TCN) control
(background checks, identification badge procedures, escort procedures, TCN exclusion areas, etc.)

(7) Security Force Plan

(a) Training requirements (weapons proficiency, augmentee training, situational ROE, sentry procedures, counter-surveillance, night vision goggles, situational exercises, reaction drills, use of force, etc.)

(b) Guard procedures (guard mount, post and relief, radio checks, range cards, reporting

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requirements, touring area, interior/exterior patrols, inspecting perimeter, weapons inspection, etc.)

(c) Special Security Instructions (SSIs):

Each post should have SSIs detailing the duties of a sentry. SSIs should detail ROE for each individual post for example "shoot any vehicle which penetrates the anti-tank ditch and berm" or "shoot anyone who rams through the gate." Identify authority of individual (i.e. Who can bring the base to alert? If ROE criteria are met, can the guard fire without further authorization?)

(d) Security response (quick reaction force, HN security support, reaction force identification, quick reaction checklists, etc.) Special consideration must be made to control and identify the responding force. Misunderstandings could lead to fratricide among friendly forces. Some control measures include passwords, using stationary guard forces to vector in the response force, and procedures directing all non-guard personnel into buildings or safe rooms.

(e) Equipment requirements (vehicles, weapons, ammunition, communications gear, night vision devices, personal gear)

(f) Patrols (check points, routes, ROE, communications plan, weapons, equipment, etc.)

(8) Emergency Action Plans (EAPs): Response plans for specific scenarios. Considerations for some of these plans are listed below:

Suspicious package/vehicle within perimeter

- What are the procedures for reporting a suspicious package/vehicle?
- What is the cordon size for a suspicious package/vehicle?

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- What is the Explosive Ordnance Disposal (EOD) response time?
- What procedures will be used to identify a suspicious package as an improvised explosive device (military working dog, ion scanner, x-ray)?
- What procedures will be used to destroy an explosive device?
- Are procedures different at the ECP? at the post office? at the chow hall?

Suspicious vehicle outside perimeter

- Where do personnel seek cover? Does this location change based on location of the vehicle?
- Who has jurisdiction to investigate vehicle?
- If host nation (HN) has jurisdiction, how does installation request assistance from HN?
- How does installation overcome language barrier with HN?
- Does installation have a memorandum of understanding with HN?

Suspicious vehicle penetrating perimeter or running ECP

- Where do personnel seek cover? Does this location change based on point of penetration?
- What actions do security forces take?
- If base has layered barrier system, who is responsible closing inner barriers? Will these inner barriers block the QRF?

Mortar or sniper attack

- Where do people seek cover?
- How will installation find enemy mortar team?
- Who has jurisdiction to intercept enemy mortar team?

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- If HN has jurisdiction, how does installation request assistance from HN?
- How does installation overcome language barrier with HN?
- Does installation have a memorandum of understanding with HN?

Infiltration

- How can security forces distinguish infiltrator from friendly forces?
- Do friendly forces have a duress code? password?
- What actions do non-security force personnel need to take? Do they stay in buildings and lock doors? Can they contact security forces?

NBC attack

- How will protection levels be published?
- How will installation detect NBC attack?
- Is adequate NBC detection, protective and decontamination equipment available?
- What medical/emergency services are capable of handling NBC contamination?
- How does installation request medical/emergency service assistance from HN?
- How does installation overcome language barrier with HN?
- Does installation have a memorandum of understanding with HN?

Food or water contamination

- How is food tested to detect contamination?
- Are emergency supplies available? How many days of supply are available?
- Are alternate food/water services available?

Mass casualty

- Are sufficient medical supplies on-hand?

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- Do medical personnel have list of blood types for all personnel on base?
- What hospital will handle casualties? Who provides transportation to the hospital? Do the drivers have maps to the hospital? Have they rehearsed their routes to the hospital?
- How will the base overcome the language barrier with the supporting hospital?
- Does the base have a memorandum of understanding with the hospital?

Evacuation Plan

- Under what circumstances will the plan be executed?
- Who will provide security?

For ground evacuation:

- Have available routes been surveyed? Have leaders conducted route reconnaissance?
- Are strip maps available for evacuating vehicles?
- Are enough vehicles available for evacuation?

For air evacuation:

- Have landing strips/pads been surveyed?
- Are alternate modes of communication available for ground-air communication?

Accountability Plan

- Have rally points and rally point leaders been established?
- What communications will be used to report accountability? Alternate communications?
- Do key personnel have phone/address rosters for all personnel?
- Are strip maps to off base housing on-hand?
- Are floor plans available for residential housing?

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Bunker Plan

- Are personnel assigned a work bunker and billeting bunker?
- Are adequate bunkers available to handle all personnel?
- Do key areas (i.e. chow hall) have additional bunkers to handle surge personnel?
- Are bunkers equipped with water and first aid kits?

(9) **Rules of Engagement (ROE)** (use of deadly force, intent/opportunity/capability, weapon conditions¹, verbal warnings in English/Arabic, etc.)

(10) **OPSEC** (list additional OPSEC requirements for each threat level and threat condition in addition to standard OPSEC measures)

(11) **Site Diagram:** Identify vital assets, access points, guard posts, sensor locations, sectors of fire, sectors of observation, and barriers.

4. COMMAND. (Identify the primary and alternate locations of the emergency operations center. Enter the compound's chain of command. Highlight any deviation from that chain of command that must occur because of a security/terrorist incident. The compound must provide for prompt dissemination of notifications and alarm signals, and the timely/orderly transmission and receipt of messages between elements involved in and responding to the incident.)

a. Emergency Operations Center Locations

- Primary: [ENTER location]
- Alternate: [ENTER Location]

b. Succession of Command

- First alternate: [ENTER POSITION/TITLE]
- Second alternate: [ENTER POSITION/TITLE]

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//SIGNATURE//

Senior Compound Official
Signature Block

ANNEXES: (Should provide amplifying instructions on specific aspects of the plan. Each ANNEX can be subdivided into APPENDICES, TABS, and ENCLOSURES as required to provide amplifying instructions.)

ANNEX A - Task Organization (ENTER key AT organization composition i.e., Working Groups, Crisis Management Team, Emergency Operations Center, First Response Elements, etc.)

Appendix 1 - Table of Organization

Appendix 2 - Post Prioritization Chart

ANNEX B - Intelligence (ENTER the agency(s) responsible for intelligence and specific instructions.)

Appendix 1 - Local Threat Assessment

Appendix 2 - Local Criticality/Vulnerability Assessment

Appendix 3 - Risk Assessment

ANNEX C - Operations (This is the most IMPORTANT part of the plan]. Annex C and supporting Appendices will provide specific instructions for all the various operations. All other Annexes/Appendices support the implementation of Annex C.

Appendix 1 - Incident Planning and Response [ENTER how the various agencies (military/civilian) and resources will be integrated to respond to the operations outlined below. These instructions should be generic enough to apply across the operational spectrum. Specific instructions for each operation will be detailed in the appropriate Annex/Appendix/Enclosure.]

Tab A - Incident Command and Control Procedures

Tab B - Incident Response Procedures

Tab C - Consequence Management Procedures

Appendix 2 - Special Threat Situations

Tab A - Bomb Threats

Enclosure 1 - Bomb Threat Mitigation

Enclosure 2 - Evacuation Procedures

Enclosure 3 - Search Procedures

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- Tab B - Hostage Barricaded Suspect
- Tab C - Mail Handling Procedures
- Appendix 5 - Physical Security
 - Tab A - Compound Barrier Plan [ENTER procedures and pictorial representation of barrier plan.]
 - Tab B - Compound Curtailment Plan
 - Tab C - Construction Considerations
 - Tab D - Facility and Site Evaluation and/or Selection
 - Tab E - AT Guidance for Off-Compound Housing
- Appendix 6 - Compound Security (Include organization, training, equipping of augmentation security forces)
- Appendix 7 - Other On-Site Security Forces
- Appendix 8 - High Risk Personnel
 - Tab A - List of High Risk Personnel
- Appendix 9 - Operations Security
- Appendix 10 - Information Security
- Appendix 11 - Emergency Operations Center (EOC) Operations [ENTER procedure for the activation & operations of the EOC.]
 - Tab A - EOC Staffing (Partial/Full)
 - Tab B - EOC Layout
 - Tab C - EOC Messages & Message Flow
 - Tab D - EOC Briefing Procedures
 - Tab E - EOC Situation Boards
 - Tab F - EOC Security and Access Procedures
- Appendix 12 - Emergency Mass Notification Procedures (ENTER the specific means and procedures for conducting a mass notification. Also covered should be the procedures/means for contacting key personnel and sections.)
 - Tab A - Situation Based Notification
 - Tab B - Matrix List of Phone Numbers/Email Accounts
- Appendix 13 - Natural/Man-made Hazards (Optional) [Hurricanes, Flooding, Chemical Plants etc.]
 - Tab A - Locality specific natural and man-made hazards)

ANNEX D - Logistics (Specific logistics instructions on how to support emergency operations)

- Appendix 1 - Priority of Work (ENTER the priority of employing scarce logistical resource.)

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- Appendix 2 - Emergency Supply Services
- Appendix 3 - Evacuation Shelters
- Appendix 4 - Generator Refueling Matrix (Priority order)

ANNEX E - Legal (ENTER the jurisdictional limits of the compound's key staff. The senior compound official is responsible for maintaining law and order on the compound. The compound should establish memorandums of agreement/understanding to address the use of compound security forces that clearly delineate jurisdictional limits. The agreements will likely evolve into the compound having responsibility "inside the wire or compound perimeter" and the HN having responsibility "outside the wire or compound perimeter".)

- Appendix 1 - Jurisdictional Issues
- Appendix 2 - Use of Force and/or Rules of Engagement Instructions
- Appendix 3 - Pictorial Representation of Compound Jurisdiction

Annex F - Command Relationships (Provides specific guidance on command relationships and interoperability issues during incident command and control.)

- Appendix 1 - Organizational Charts (Crisis Management Team, AT Working Group, First Responder Elements, Incident Command Organization (include other external agencies).)

ANNEX G - Communications (Specific communications instructions on how to support operations. Include systems/procedures for SECURE and NON-SECURE communications means.)

- Appendix 1 - Compound Communication Architecture
- Appendix 2 - Incident Command Communication Architecture
- Appendix 3 - EOC Communication Architecture
- Appendix 4 - Security Force Communication Architecture
- Appendix 5 - Fire Department Communication Architecture
- Appendix 6 - Medical Communication Architecture
- Appendix 7 - Other Agencies

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ANNEX H - Health Services (Specific medical instructions on how to support operations)

Appendix 1 - Mass Casualty Plan

Appendix 2 - Procedures for Operating with Local Area
Emergency Medical Services and Hospitals

ANNEX I - AT Program Review, Training, & Exercises

Appendix 1 - Consequence Management Program Review

Tab A - Local Assessments

Appendix 2 - AT Required Training

Appendix 3 - Exercises

ANNEX J - References (ENTER all supporting reference materials, publication, regulations etc.)

ANNEX K - Distribution (ENTER the list of agencies to receive this plan.)

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JOINT SECURITY DIRECTORATE FACT SHEET # 1 VEHICLE BOMB MITIGATION



Definitions

The detonation of vehicle bombs generates four primary hazards to personnel in fixed structures, shelters and in the open:

Primary fragments— are parts, pieces, and fragments of the vehicle and bomb that are thrown outward from the detonation at high velocity. Primary fragments are generally the most lethal projectiles from a bomb detonation.

Secondary fragments from barriers and structures—Countermobility devices and structures near the vehicle bomb (VB) and entry control point (ECP) will be completely involved in the VB explosion and will produce secondary debris as they are broken up by the force of the blast. This debris will be launched at relatively low trajectories, but will have significant velocity.

Secondary debris in fixed structures—Window glass and some structural materials such as masonry walls can fail and become debris that is hazardous to personnel occupying perimeter spaces in buildings.

Blast—The force of the explosion as it is transmitted through the air (blast) can cause injury to personnel in the open. It can pick up and translate ground debris, and can fail and collapse structures, generating numerous injuries and deaths.

Barriers

Concrete Barriers: Jersey, Bitburg and Texas barriers are typically employed for countermobility or blast/fragment mitigation around ECPs and approach avenues. Concrete barriers employed in this fashion can be effective in stopping primary debris, if they are sufficiently tall. However, they also may become secondary debris hazards in the immediate vicinity of a large explosion. Instead of protecting assets from blast or fragment damage, concrete barriers can cause additional damage by becoming secondary debris.





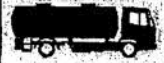

Earth Filled Barriers: Earth filled barriers are typically employed around expeditionary structures to provide blast and fragment damage protection, and consist of things like berms, earth filled basket (Hesco) walls, and sandbags. As fragment protection, these barrier types work extremely well; however, for blast mitigation purposes these barriers will reduce structural damage only slightly by reducing reflected pressures to incident pressure levels.

Permanent Barriers: Permanent barriers generally refer to structures such as blast walls that are intended to remain as a permanent facility hardening measure. Generally, these structures have been employed in one of two ways: 1) At the anticipated detonation location or 2) Immediately in front of the building they are designed to protect. Unfortunately, test data indicates that employing a blast barrier at the detonation point provides no appreciable increase in protection in all but a very few building types. However, constructing a blast wall immediately in front of occupied structures can provide significant protection. The blast wall effectively reduces the pressure from a reflected pulse to an incident pulse, permitting reduced safe standoff distances. Blast walls can be massive, however, requiring a height equal to 1.5 times the protected structure height, and a width equal to 2 times the protected structure width. The wall also must be located no further than one story height from the protected face of the building.

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ATF	VEHICLE DESCRIPTION	MAXIMUM EXPLOSIVES CAPACITY	LETHAL AIR BLAST RANGE	MINIMUM EVACUATION DISTANCE	FALLING GLASS HAZARD
	COMPACT SEDAN	500 Pounds 227 Kilos (In Trunk)	100 Feet 30 Meters	1,500 Feet 467 Meters	1,250 Feet 381 Meters
	FULL SIZE SEDAN	1,000 Pounds 455 Kilos (In Trunk)	125 Feet 38 Meters	1,750 Feet 534 Meters	1,750 Feet 534 Meters
	PASSENGER VAN OR CARGO VAN	4,000 Pounds 1,818 Kilos	200 Feet 61 Meters	2,750 Feet 838 Meters	2,750 Feet 838 Meters
	SMALL BOX VAN (14 FT BOX)	10,000 Pounds 4,545 Kilos	300 Feet 91 Meters	3,750 Feet 1,143 Meters	3,750 Feet 1,143 Meters
	BOX VAN OR WATER/FUEL TRUCK	30,000 Pounds 13,636 Kilos	450 Feet 137 Meters	6,500 Feet 1,982 Meters	6,500 Feet 1,982 Meters
	SEMI-TRAILER	60,000 Pounds 27,273 Kilos	600 Feet 183 Meters	7,000 Feet 2,134 Meters	7,000 Feet 2,134 Meters

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JOINT SECURITY DIRECTORATE
FACT SHEET # 2
VEHICLE BOMB BLAST HAZARDS



NOTE: Fragment mitigation is limited to the height of the barrier. The further the barrier is from the detonation point, the higher the barrier will need to be to stop an equivalent number of fragments. Fragment hazards can generally be mitigated effectively with proper barrier emplacement. Blast is the critical issue in site design.

CAR BOMB – 500 LB TNT or EQUIVALENT

<i>No Barrier</i>	Primary Debris:	600 ft.	<i>Bitburg Barrier</i>	Primary Debris:	None
	Secondary Debris:	None		Secondary Debris:	30 ft.
	CMU Wall Failure:	135 ft.		CMU Wall Failure:	135 ft.
	Glass Hazard:	500 ft.		Glass Hazard:	500 ft.
<i>Jersey Barrier</i>	Primary Debris:	600 ft.	<i>Hesco Barrier</i>	Primary Debris:	None
	Secondary Debris:	20 ft.		Secondary Debris:	None
	CMU Wall Failure:	135 ft.		CMU Wall Failure:	135 ft.
	Glass Hazard:	500 ft.		Glass Hazard:	500 ft.

Glass Hazard Mitigation

Type of Window	Thickness of Film	Minimum Safe Standoff
5/32" Retrofitted 36" Tall	4 mil	240 ft.
5/32" Retrofitted 60" Tall	4 mil	260 ft.
5/32" Retrofitted 36" Tall	8 mil	160 ft.
5/32" Retrofitted 60" Tall	8 mil	180 ft.
1/4" Retrofitted 36" Tall	4 mil	210 ft.
1/4" Retrofitted 60" Tall	4 mil	220 ft.
1/4" Retrofitted 36" Tall	8 mil	140 ft.
1/4" Retrofitted 60" Tall	8 mil	150 ft.

TRUCK BOMB – 10,000 LB TNT or EQUIVALENT

<i>No Barrier</i>	Primary Debris:	1,200 ft.	<i>Bitburg Barrier</i>	Primary Debris:	None
	Secondary Debris:	None		Secondary Debris:	900 ft.
	CMU Wall Failure:	650 ft.		CMU Wall Failure:	650 ft.
	Glass Hazard:	1,400 ft.		Glass Hazard:	1,400 ft.
<i>Jersey Barrier</i>	Primary Debris:	1,200 ft.	<i>Hesco Barrier</i>	Primary Debris:	None
	Secondary Debris:	500 ft.		Secondary Debris:	None
	CMU Wall Failure:	650 ft.		CMU Wall Failure:	650 ft.
	Glass Hazard:	1,400 ft.		Glass Hazard:	1,400 ft.

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Glass Hazard Mitigation

Type of Window	Thickness of Film	Minimum Safe Standoff
5/32" Retrofitted 36" Tall	4 mil	980 ft.
5/32" Retrofitted 60" Tall	4 mil	1,300 ft.
5/32" Retrofitted 36" Tall	8 mil	625 ft.
5/32" Retrofitted 60" Tall	8 mil	750 ft.
1/4" Retrofitted 36" Tall	4 mil	920 ft.
1/4" Retrofitted 60" Tall	4 mil	1,100 ft.
1/4" Retrofitted 36" Tall	8 mil	625 ft.
1/4" Retrofitted 60" Tall	8 mil	625 ft.

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JOINT SECURITY DIRECTORATE FACT SHEET # 3



THE RPG-7

The RPG-7 is a shoulder-fired, muzzle-loaded, rocket-propelled grenade launcher with a 40mm tube. The launcher with optical sight weighs 6.9 kilograms (15.2 pounds) and has a maximum effective range of 300 meters against moving point targets and 500 meters against stationary point targets. The RPG-7 fires an 85mm High-Explosive Anti-Tank (HEAT) spin-stabilized rocket-propelled grenade that is capable of penetrating 13" of armor plate. The warhead is equipped with a point impact fuse with a base detonator. An individual experienced in its use can fire 4 to 6 rounds per minute. The RPG-7 can be fired safely from inside buildings.

Ranges

Arming	5 meters
Moving Point Target	300 meters
Stationary Point Target	500 meters
Self-Destruct	900 meters

The RPG-7 can penetrate other material, but it is not a wall-buster. It will put a hole up to 2" in diameter through a concrete or brick wall, but it will not knock it down.

Penetration Capability

Sandbags	90"
Earth/Log Bunkers	60"
Reinforced Concrete	18"

Stand Off to Prevent Penetration

4 1/2" Brick Wall	25'
6" Concrete	25'

The RPG-7 is not designed for fragmentation effect but:

- Lethal metal fragments can fly up to 150 meters from the point of detonation
- The round can penetrate through berms, sandbags and concrete structures and can reach personnel that are otherwise protected from small arms and artillery fire.

The RPG Screen

A screen of chain link fence will electrically short out the grenade and prevent detonation in 50% of the rounds fired into it. This happens because the nose fuse of the round can pass through the wire without striking a wire strand, but this will bend the metal ogive against the inner cone. This cone carries the firing signal from the nose fuse to the base detonator and shorts when the ogive touches the cone. The round completely duds, when this happens.

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JOINT SECURITY DIRECTORATE
FACT SHEET # 4
VEHICLE SEARCH PROCEDURES



To minimize the risk of deceptive and naive vehicle bomb deliveries at high risk chemical facilities, security personnel may be required to physically search vehicles as a supplement to other access control practices. Unfortunately, as our consulting team has witnessed at a number of chemical sites, many facilities that have implemented vehicle searches are using ineffective search procedures or have provided little, if any, training to site security personnel. The procedure outlined in this article is provided as a model for facilities that wish to improve their existing search protocols.

The method of search that we recommend requires two guards to conduct the search. One guard physically searches the vehicle while the second guard carefully observes the driver and occupants for any signs of suspicious behavior or anxiety. For maximum effectiveness, a checklist should be used to ensure that the search is conducted properly and documented.

Step One: Prepare the vehicle for search.

As a vehicle is identified for search, the driver should be instructed to park the vehicle in the search area, turn off the engine, and step out. Any passengers should also be instructed to exit the vehicle. Next, the guard leading the search should instruct the driver to open all doors, the hood, and the trunk. If the vehicle is a truck, the driver should also open the back of the cab or trailer.

While the first guard is inspecting the vehicle, the second guard should carefully watch the driver and passengers for any signs of increased anxiety or agitation. The second guard should be prepared to use force in the event that a bomber panics and attempts to activate the device.

Step Two: Search the passenger compartment.

Next, the first guard should inspect the passenger area. If there are any jackets or objects concealing view of the seats or floor, the guard should instruct the driver to remove these items. Without touching anything, the guard should carefully observe any unusual wires or cord running through the interior, small boxes or enclosures with wires extending to another part of the vehicle (possible control or arming devices), signs of tampering along the edges of seats and dashboards, and any large boxes or containers.

Step Three: Search the exterior of the vehicle.

Inspect the exterior of the vehicle for any suspicious characteristics. Begin near the front of the vehicle and work around the back and the opposite side.

If the vehicle is a truck, carefully observe the gas tanks for any signs of repair, welding, or new paint. Tap the top and bottom of the tank. Notice if the bottom sounds hollow while the top sounds full. Bombers have used false compartments in gas tanks to conceal explosive charges on a number of occasions.

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The area between the truck cab and the trailer should also be carefully inspected. Notice any wires or lengths of cord connecting the cab and the trailer. Many bombers conceal the activation system or arming features in the cab while running a length of wire or detonating cord to the rear cargo area. Any pairs of thin single-conductor wires or plastic or textile-covered cord should be reason for suspicion—particularly if the wires or cord appear brown, olive, or brightly colored.

While moving around the vehicle, the guard should be aware of any unusual scents of petroleum products or acidic smells (such as burning time fuse). The rapid onset of a headache during the search is another reason for suspicion. Two explosives with high vapor pressure (nitroglycerin and methyl nitrate) often produce headaches when their vapor is inhaled.

If the vehicle is a tanker truck, the area around the tank should be closely inspected for any unusual objects in close proximity. Particularly note any objects affixed to the tank itself, wires connecting unusual objects to other areas around the vehicle, and any items that resemble communications equipment (such as pagers, cell phones, radios, or model aircraft/car parts). This inspection should include the top and bottom of the tanks as well. As demonstrated in the May 2002 bombing at the Pi Giliot petroleum and gas facility in Israel, terrorists may attempt to conceal a device on a vehicle operated by an innocent driver.

If the vehicle is a truck or box van, the guard should also examine the rear bumper or trailer step for signs of fresh rust. Many improvised explosives employed in vehicle bomb attacks use corrosive oxidizers. While building the bomb, some of this explosive may leak or be swept onto the bumper, leaving patches or spots of fresh rust.

Step Four: Inspect the trunk or cargo area.

The guard should pay close attention when inspecting the trunk or cargo area. These are the most common locations for concealing the main explosive charge. In most vehicle bombs, the main charge is concealed in one or more large containers. Many explosives commonly used in large bombs (e.g., ANFO, urea nitrate, etc.) require a sealed container, such as a bag, barrel, or drum. Other explosives, such as dynamites, may be stored in their original cartons or repacked into boxes. Placement of these containers is usually positioned in the forward part of the truck's cargo area or car trunk.

If multiple containers are used for the main charge, wires or lengths of detonating cord may be visible connecting the charges together. Many explosives used in vehicle bombs require a booster for initiation. This may be visible as a brightly colored cylinder or (more likely) as a typical high explosive charge or small container filled with explosive.

If the vehicle is a cargo truck, the guard should physically enter the back and inspect the entire interior of the cargo area including the areas behind any palettes or tarps. Terrorists often stack objects in front of the main charge to conceal it from casual view. The Provisional Irish Republican Army, for example,

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would often place a board in front of the explosive charge to conceal it from view at the rear of the truck.

During the search, the second guard should continue to watch the driver and passengers. If at any point during the search, the driver or passengers demonstrate signs of increased nervousness; this may be an indication that the first guard is close to the location of something concealed. If this is observed, the subjects should be walked away from the vehicle while the first guard intensifies his search of that area.

Step Six: Release the vehicle and document results.

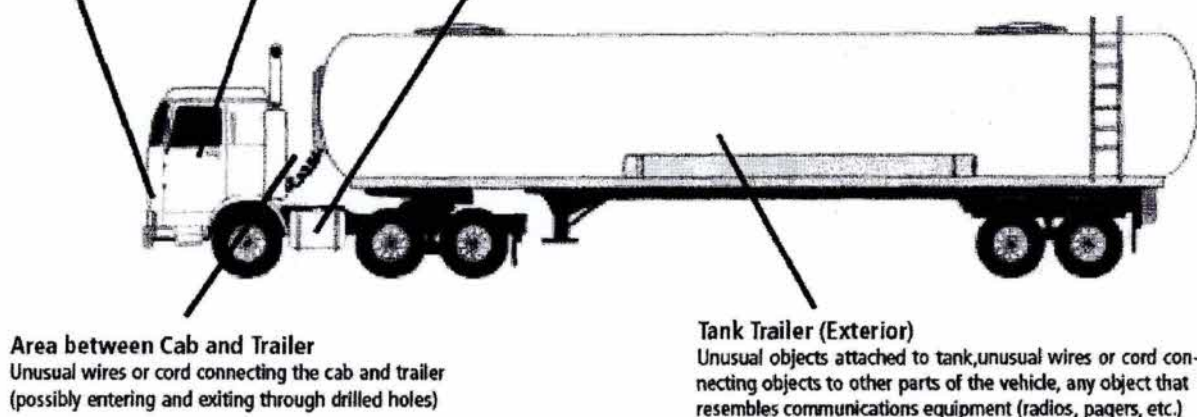
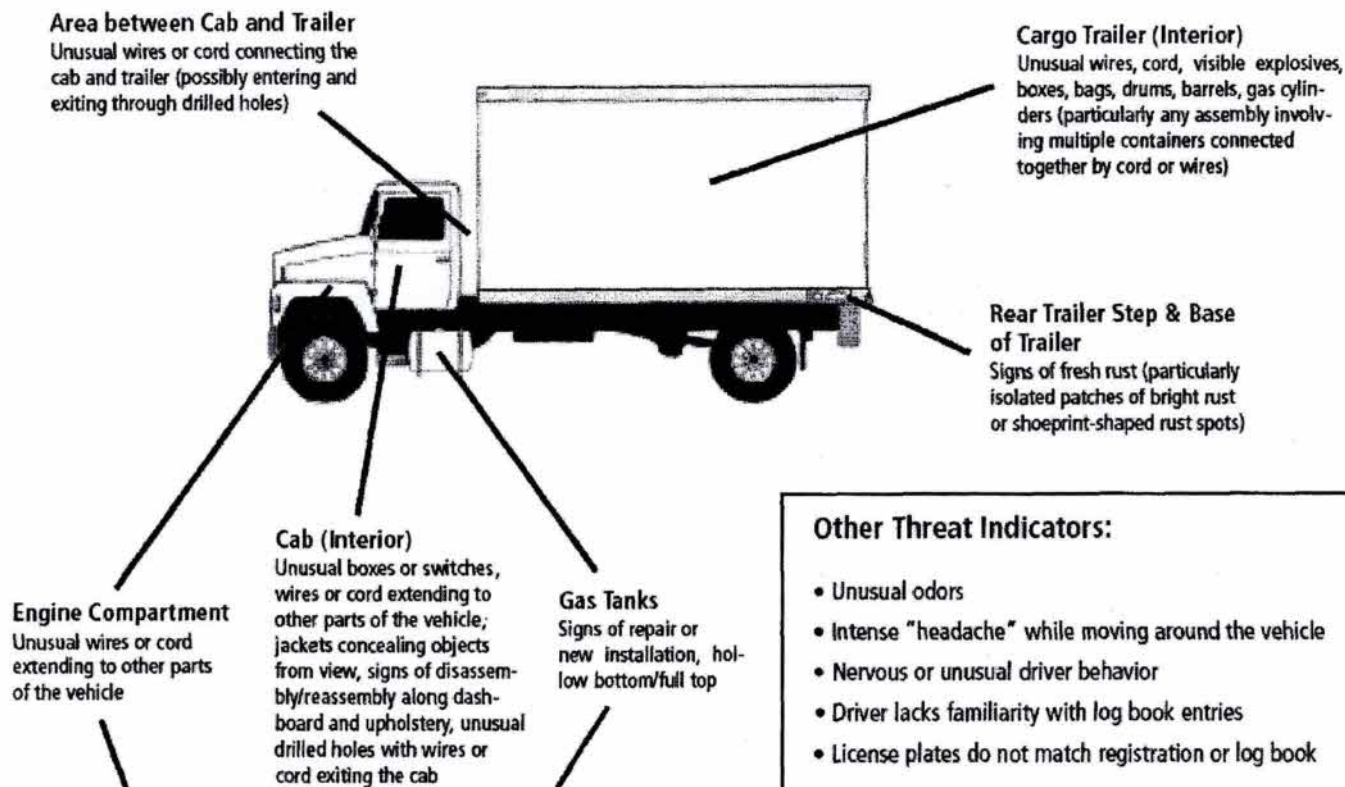
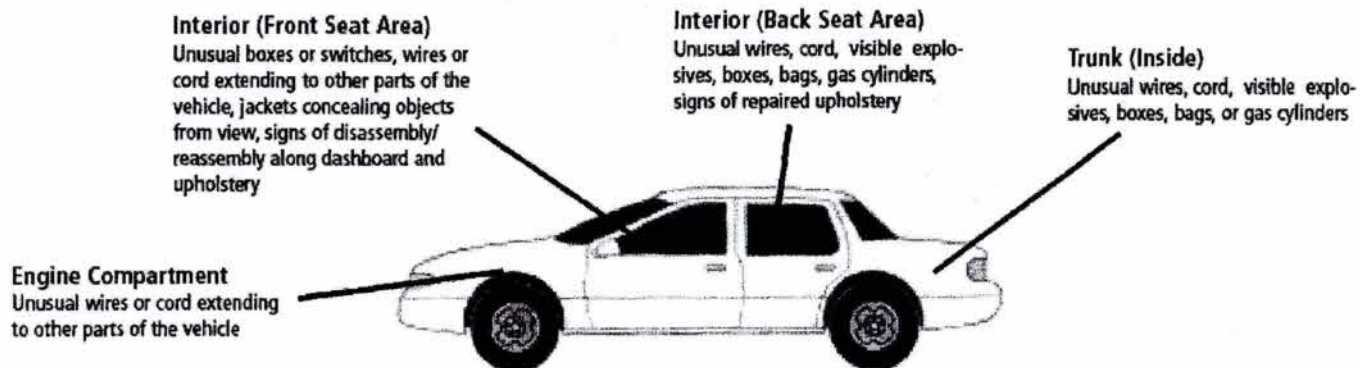
Once the back of the vehicle is inspected, the driver should close up the vehicle and proceed to his/her destination inside the facility.

If at any point in the search, something suspicious is observed: stop immediately! The second guard should hold the driver and passengers in custody while the first officer alerts the Provost Marshall. The area around the vehicle control point should be evacuated while the security department initiates the facility response procedure.

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POTENTIAL VEHICLE BOMB INDICATORS



STATE OWNED ENTERPRISES – 8 Mar 2004

Current Situation

Iraq had a centrally planned economy. The major part of the industrial assets of the nation was concentrated in the State Owned Enterprises ("SOE's"). They include some of the most basic industries that Iraq needs for reconstruction including cement, petrochemicals, fertilizer, iron and steel, paper, food and transport. They were and are major employers.

The SOE's are currently suffering from serious difficulties. Visits indicate that most are not working or operating at very low capacity. They have a serious shortage of spare parts, damaged or missing plant, almost no financial resources and a dispirited and confused management and workforce. Some of these problems arise from the political situation. Some are more deeply rooted.

Why act ?

The process of moving to a free market economy involves difficult decisions and a planned progress. If we stand back and let these enterprises fail, as they inevitably will the very day we stop paying their wages, then we can expect the consequent destruction of what ever value those enterprise might currently have.

By leaving the plants idle and the workers at home, we are promoting the culture of dependency on the state. The former regime gave people the expectation that the state would provide them with jobs and salaries. We have not altered that perception, but emphasized it by not even requiring the workers to turn up. After 18 months of idleness, we will have merely created a class of state-dependent pensioners. These companies should get themselves back to work and start producing something (anything). They cannot do that without some financial help.

Financial and business decisions need to be taken whether the amount needed to get a company back to work increases the value of that company more than the investment. If we let these enterprises fail as they are, without taking those decisions, we will be responsible for the destruction of their inherent value and could be called to account for it.

It is a fundamental principle of any insolvency practice that a company that is in working condition with an employed workforce has a far greater value than an abandoned factory.

Social and political issues

The SOE's are large employers and, crucially, are often the only major employer in their immediate area. The overall benefits to the nation of moving to a free market economy in the long term are enormous. The pain of industrial dislocation will be felt very acutely and in a very concentrated form in a few particular areas.

There is already experience of considerable political problems arising from even a delay in payment of salaries. There will therefore be a major social and political shock, if these enterprises fail.

The source of the problems

The issues can be summarized as falling under three headings:

1. Age of the plant and the effects of war, sanctions and looting.
2. The current political process – namely control by CPA.
3. The system of centralized control of the Iraqi economy and their management by various Ministries.

Age and war

Much of the industrial plant was bought in the 1970's in a series of turnkey investments and was state of the art at the time. However the plants then suffered during the economic downturn of the Iran-Iraq war and then faced massive difficulties under sanctions. With the limitations imposed on foreign trade and the soviet style economic system, the SOE's were refused access to foreign markets and suffered from a serious lack of replacement and spare parts. This has led to a cannibalization of machinery to keep a small part of the plant running with consequent lower capacity and higher costs.

The situation was summed up by the management of the Maysan Paper Mill who explained that given several hundred thousand dollars' worth of replacement parts and 2-3 months they could start to operate producing very low quality and high cost paper at about 10% of capacity.

Many of the SOE's were looted, sometimes on a massive scale. The resultant value destruction was enormous and will be costly to replace. There is also a fundamental question to be asked. It is: If we repair and refurbish this plant, after all the investment required, will it even then be competitive in the world market to which Iraqi industries are now exposed?

Current political process

CPA has not been a good manager of the SOE's. At an operating and regional level, visits have been made by CPA personnel to various plants and companies. Management has been asked to list their requirements for repairing their factories and getting back to work. Reports have been written. However there is a scarcity of resources and other needs have taken greater priority – as they must when faced with basic shortages of water, power, healthcare and education.

Funds for the SOE's have therefore not been forthcoming. No action has taken place and the plants have stayed as they were – just a little older and a little more decayed. Management has become less motivated as uncertainty continues. 10 months of complete business disarray would have a disastrous

effect on any company – let alone one that has been through the experience of war, looting and occupation.

It is both surprising and encouraging that there still does appear to be educated and capable managers who are keen to get their enterprises back to work and would do so given sufficient help.

At the central, national level there has been no coherent strategic decision making. Having reviewed various alternatives, CPA adopted a semi-laissez faire approach of paying their wages, imposing a hiring (and firing) freeze and providing no budget for operating costs. In some cases, this hands-off policy has been economically disadvantageous in that we have spent more money importing goods than we would have spent in refurbishing a plant to produce them (eg fertilizer)

CPA has fallen into the same management trap as the former centrally planned regime. That is, that government policy has too many major issues to permit adequate time and resources being allocated to managing commercial entities. But since they are set up to have all decisions taken centrally, weak management at the center and a lack of control has disastrous consequences. CPA is neither taking decisions nor allowing the enterprises to take them.

The result is a sad indictment of the management of Iraq's economy by the world's most successful free market state. We need to leave behind a reformed industrial structure that can help to prop up the political freedom we have brought, not hinder it.

Central control and Ministerial management

All the SOE's were centrally managed by their respective ministries. Finance, Industry, Trade, Transport, Oil, Housing are all responsible for companies ranging from strategic assets to shopping centers and car hire.

Central control of the SOE's involved the setting of input and output prices, the requirement to sell to certain entities and to buy from others and to obey numerous central government regulations and directives. Under this regime most of the major decisions of normal commercial life were taken outside the company. Independent management was therefore neither practiced nor possible.

Ministerial control of commercial enterprises has very rarely succeeded. The experience of privatization across the world indicates that, time and again, businesses do better when they are independently managed for the good of the business by their won managements and boards. The problem is not inherently ownership, but the tendency to over-manage, and to set business objectives using non-business criteria.

Ministers and their staffs are rarely qualified to make business decisions about individual companies and their remoteness from the enterprises, their customers and their day to day concerns makes any such decision taking outdated at best and positively dangerous at worst.

There is also a natural tendency for government departments to favor their own ministry owned enterprises with favorable treatment in contracts and with favorable terms from other SOE's. This risks driving out the development of a viable private sector as they are faced with an entrenched competitor with valuable government access and contracts and a lower (because subsidized) cost base.

The result is inefficient industries, the choking off of a viable private sector and an enormous drain on ministerial time and talent.

What to do

The proposal is that all the SOE's are consolidated into one state holding company reporting to the Ministry of Finance. The holding company could be given a dedicated team of advisors freed up from the current ministerial advisory teams. All the problems of the SOE's would be in one place and we would not be reliant on individual ministries to undertake the study and work required to assess them and deal with them.

Advantages of Consolidation

Once we remove the SOE's from the control of the individual ministries, we achieve three major benefits. The first is that we clearly separate political/policy decision making from business control allowing the ministries to concentrate on what is the proper role of government in a prosperous free market economy.

The second is that we remove an enormous burden from the ministries. The effects of the war, the looting of the ministries, the purging of former regime activists and the general dislocation have reduced the number of trained and effective personnel in the ministries. Those personnel are also operating under far more difficult conditions with poor communications and limited facilities.

The current condition of the ministries means that they can barely perform the major ministerial functions adequately. If we want them to improve we have to allow them to start hiring (leading to questions of available talent and funds) or we have to reduce their workload.

The third advantage is that the ministries may be unrealistically supportive of their own companies. They may not make the tough decisions that need to be taken to close or merge. The SOE's could then become a massive drain on the public economy as they are given ever larger subsidies to achieve nebulous social objectives.

Obstacles

There may well be major objections to such a plan from the ministries themselves. This is a predictable reaction of any politician / bureaucrat asked to reduce numbers and therefore power base. It is unlikely that we could achieve buy-in from all parties in time (if ever) to achieve the move of the SOE's before 30 June. This would take a bold executive decision to cut the Gordian knot.

Why we should consolidate

There are a number of vital tasks to be undertaken and managed in a professional way. Currently there is not an adequate list of state assets. There is not a comprehensive list of SOE's. There are no believable financial statements or even balance sheets. Left to individual ministries, some would do the job well; others would do it badly – as is currently the case, due to various constraints.

There is duplication of assets and tasks amongst the SOE companies – Transport has trucking companies as does Trade. Businesses could be consolidated, premises could be shared, and experience could be leveraged as many of the problems they face are the same.

Once they are all under one control, then a unified, consistent approach can be taken by a dedicated team which has no other task and no other priorities. The team can then learn from each experience of dealing with an SOE and apply that experience to the next business.

The team can undertake an immediate triage assessment, dividing the companies into those that are so broken, they must be closed, those that can survive with just a little help and those that need fixing. With political will and a dedicated team with financial resources, many of these companies could be put back to work. Those that are not economically sustainable in the long run might be economic for the next two to three years as the Iraqi economy grows and sucks in goods and services.

Closing the whole SOE sector down now, would create massive labor and political problems. Leaving the companies moribund with their workers either not working or turning up desultorily during the week and on payday is an abdication of responsibility. Like it or not, the SOE's have been managed by the government. They are looking to the governing authority to solve their problems.

Privatization

A common belief is that we need to privatize the SOE's. Other ideas have been mooted; offer long term leases to foreign partner companies; put in place management contracts; even close them all down as soon as possible. None of these solutions can or will be carried out efficiently and properly until there is a

dedicated team to handle them. This cannot happen while the SOE's are split and under the direction of a variety of political and bureaucratic overseers.

-----Original Message-----

From: (b)(6)

Sent: Thursday, February 19, 2004 6:16 PM

To: Castle, Edwin (SES-3)

Cc: (b)(6)

(b)(6)

Subject: Contracting with SOEs

Here is a summary of my thoughts and research on the question of whether the CPA (or PMO) can contract with State-Owned Enterprises (SOEs) for contracts funded with U.S. appropriated funds from the Supplemental Appropriation.

- There is no legal prohibition to contracting with Iraqi State-Owned Enterprises, although a waiver would be required for those contracts awarded through USAID procedures.
- An Iraqi State-owned Enterprise (State Company) is defined in Iraqi Law No. 22 of 1997 on State Companies as "[t]he economic unit which is self-financed, fully owned by the state, enjoying a corporate status, independent financially and administratively, and functioning on economic bases."
- These SOEs enjoy a sufficient independent status under Iraqi law to allow them to enter into a contract with the CPA.
- This independent corporate status would allow the use of a standard FAR contract with a SOE (complete with standard clauses).
- A SOE cannot compete for a cost reimbursement contract, because accounting procedures for SOEs are insufficient.
- A SOE need not be subjected to the public-private sector competition requirements of A-76, because its subsidies come from Iraqi money rather than from US appropriated funds. As such, the policy of FAR 7.301 that the government will generally rely on private commercial sources for supplies and services is arguably inapplicable.
- USAID statutory policy favors contracting with the private sector, and states:

- Development assistance policy. United States cooperation in development should be carried out to the maximum extent possible through the private sector, including those institutions which already have ties in the developing areas, such as educational institutions, cooperatives, credit unions, free labor unions, and private and voluntary agencies. 22 U.S.C. § 2151-1(b)(8)

- USAID implementing regulations:

- **Foreign government-owned organizations.** Firms operated as commercial companies or other organizations (including nonprofit organizations other than public educational institutions) which are wholly or partially owned by foreign governments or agencies thereof are not eligible for financing by USAID as contractors or subcontractors, except if their eligibility has been established by a waiver approved by USAID in accordance with § 228.54. This does not apply to foreign government ministries or agencies. 22 CFR § 228.33

- Waiver authority is the Assistant Administrators.

Goods and Services. The Assistant Administrators are delegated by the Administrator for their respective areas of responsibility the authority to waive source, origin, and nationality requirements for the procurement of goods and services, other than transportation services, in accordance with applicable criteria. US Aid Automated Directives System (ADS) 103 – Delegations of Authority 103.3.8.3

- Waivers must be justified. A waiver to make foreign government-owned organizations, described in § 228.33, eligible for financing by USAID must be justified on the basis of the following criteria:

(a) The competition for obtaining a contract will be limited to cooperating country firms/organizations meeting the criteria set forth in §§ 228.31 or 228.32.

(b) The competition for obtaining a contract will be open to firms from countries or areas included in the authorized geographic code and eligible under the provisions of §§ 228.31 or 228.32, and it has been demonstrated that no U.S. firm is interested in competing for the contract.

(c) Services are not available from any other source.

(d) Foreign policy interests of the United States outweigh any competitive disadvantage at which United States firms might be placed or any conflict of interest that might arise by permitting a foreign government-owned organization to compete for the contract. 22 CFR § 228.54

UNCLASSIFIED

PROG: 30 January 2004

DRAFTER: CPA PRIVATE SECTOR DEVELOPMENT, (b)(6)

AUTHORIZED (b)(6)

CLEARED:

FROM: HEADQUARTERS COALITION PROVISIONAL AUTHORITY
TO: SECDEF WASHDC
INFO: SECSTATE WASHDC
NSC WASHDC

UNCLAS HQ CPA PSD

E.O.: 12958: N/A

TAGS: ECON, IZ

SUBJECT: CPA 534: SOE REVITALIZATION EFFORTS: ACTIVITY
REPORT FROM THE OFFICE OF PRIVATE SECTOR DEVELOPMENT

REF: CPA 101 IRAQI STATE-OWNED ENTERPRISES

1. SUMMARY. THE FOLLOWING MESSAGE SUMMARIZES CPA'S OFFICE OF PRIVATE SECTOR DEVELOPMENT (PSD) ACTIVITIES AIMED TOWARDS STATE-OWNED ENTERPRISE (SOE) DEVELOPMENT. EFFORTS INCLUDE ASSISTANCE TO CERTAIN SOES, TRAINING, RECLASSIFICATION, FUTURE TRENDS, AND AN INCREMENTAL APPROACH TO PRIVITIZATION. END SUMMARY.
2. ASSISTING SOES IN CRITICAL SECTORS TO REACH NORMAL OPERATIONS: PSD CONTINUES TO ASSIST THE SOES WITH OPERATING PROBLEMS THAT INCLUDE SHORTAGES OF ELECTRICITY AND OTHER INPUT DISRUPTIONS. PSD IS ADVISING THE MINISTRY OF INDUSTRY AND MINERALS ON THEIR INDEPENDENT POWER PRODUCER (IPP) CONTRACTS. THE IPP CONTRACTS WILL ADD 330MW OF POWER FOR THE SOES AND, IF THE TECHNICAL PROBLEMS RELATING TO THE CONTRACTS FOR THE IPPS ARE WORKED OUT SOON, THE NEW POWER COULD BE AVAILABLE AS EARLY AS MAY OR JUNE.
3. ASSISTANCE WITH FINANCIAL NEEDS: PSD IS WORKING WITH CERTAIN SOES TO HELP THEM SECURE LOANS FOR INVESTMENT IN WORKING CAPITAL AND EQUIPMENT. PSD IS ALSO ASSISTING THE MINISTRY WITH RFPS FOR LEASES OF CERTAIN SOES. THIS INCLUDES SUPPORT FOR THE PROCESS OF TAKING BIDS FOR LEASING THESE SOES, ENGAGING RESOURCES FOR CONDUCTING ASSESSMENTS AND EVALUATIONS, ADDRESSING PERSONNEL ISSUES, AND BRINGING IN OUTSIDE ADVISORS. THESE EFFORTS, IN ADDITION TO HELPING EFFECT THE LEASES, PROVIDE GOOD CAPACITY BUILDING FOR A LATER PRIVATIZATION EFFORT.

4. RECLASSIFICATION / INTER-MINISTRY TRANSFER/
CONSOLIDATION OF SOES: PSD IS WORKING WITH CPA'S GENERAL
COUNSEL TO DRAFT AN ORDER THAT GIVES THE IRAQI MINISTERS
THE AUTHORITY TO RECLASSIFY, TRANSFER, AND CONSOLIDATE
SOES, INCLUDING CERTAIN MILITARY INDUSTRY COMMISSION (MIC)
SOES. AN IMPORTANT PART OF THIS EFFORT IS TO SHUT-DOWN OR
RE-ALLOCATE ALL MIC ASSETS SO MIC CANNOT BE RECONSTITUTED
BY A NEW SOVEREIGN GOVERNMENT

5. TRAINING: PSD IS DEVELOPING A TRAINING PROGRAM FOR SOE
MANAGERS IN THE AREAS OF FINANCE, MANAGEMENT, AND
MARKETING. USAID / BEARING POINT OR AN NGO WILL DEVELOP A
BASIC BUSINESS CURRICULUM FOR THE MANAGEMENT OF CRITICAL
SOES. THIS TRAINING WILL ADDRESS THE LACK OF SKILLS IN SUCH
AREAS AS BUDGETING AND ACCOUNTING WHICH IS PREVENTING SOES
FROM OBTAINING LOANS AS WELL AS ATTRACTING POTENTIAL
INVESTORS AND PARTNERS. THESE PROGRAMS ARE FUNDED OUT OF
THE SUPPLEMENTAL.

6. STRATEGY: PSD EFFORTS WITH THE SOES ARE INCREMENTALLY
GETTING THEM CLOSER TO PRIVATIZATION. AT THE SAME TIME,
PSD REALIZES THAT THE OPENING OF MARKETS IN IRAQ MAY RESULT
IN A RAPID TRANSFER OF BUSINESS AWAY FROM MANY SOES TOWARD
MORE COMPETITIVE, PRIVATE SECTOR BUSINESSES WITHOUT A
FORMAL PRIVATIZATION PROCESS. THIS IS AN INDIRECT METHOD
TO PRIVATIZATION WHICH MAY BE QUICKER, LESS EXPENSIVE, AND
LESS POLITICALLY CHARGED FOR MANY SOES THAN A FORMAL
PRIVATIZATION PROGRAM.

BREMER

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To : (b)(6)
From : DFID Team, MIM
Date : April 7th 2004
Subject : Issues for SOE strategy

Decisions are falling all around, and our concern is that moves are made that fit into no meaningful plan, or worse, that will serve to obstruct incipient plans Iraq is making. We do not perceive resistance to a move to market economy among Iraqis, but we do see measured steps as they define their long-term policy priorities. Decisions should respect this policy-making process. In haste and the midst of meetings, these are just a few sound bites and bullet points on SOE policy, and on the possible merger of ministries of industry and trade (not forgetting minerals). Some of these points may be useful in a draft policy document – or at least as a quick due diligence check list whether the issues are at least covered in the policy document.

1. **Essential to form a Policy Hierarchy.**
 - Policy for the manufacturing SOEs needs to be part of a broader industrial development strategy
 - Industrial development strategy in turn needs to be part of a national economic strategy viz. long term diversification away from dependence on crude oil production
 - Same applies for the other sectoral SOEs eg agricultural SOEs need to be part of agricultural development strategy, electricity SOEs need to be part of energy strategy etc
 - So you need parallel policies : a general SOE policy for consistency across all sectors (not uniformity) and a policy for each sector
2. **Essential to clarify the policy objectives.** As mentioned in earlier notes, an SOE strategy must articulate the single or multiple long term goals and short term targets. What are we trying to achieve ?
 - Raise revenue for the government to plug the budget deficit ? This is the purpose in many countries, and usually involves a trade sale to the highest bidder
 - Cut government expenditure by eliminating subsidies and cash-loss funding to SOEs. Again, this calls for rapid trade sales and closures
 - Boost the current Iraqi private sector. Again this means rapid trade sales to strengthen the businesses which are already established
 - Create a wider and deeper Iraqi private sector. This would mean medium term measures like restructuring the SOEs and the economic sectors first, creating more demand by contracting out, encouraging the SOEs to become part of a 'new' private sector through management buy-outs, encouraging citizen stockholders by restructuring viable SOEs and floating them on the stock exchange
 - Etc etc – there are hundreds of different short, medium and long term objectives which need to be identified, articulated and the SOE strategy tailored to achieving the objectives

3. **Essential to base the policy on an effective diagnosis** of the prevailing conditions in the industrial and other sectors
 - Too much analysis leads to paralysis, but mis-diagnosis kills the patient
 - Important to assess the capacities of the whole industrial sector, not just the SOEs, and evaluate the strengths and weaknesses of the private sector
 - Essential to carry out a needs and gaps analysis, to identify the problems in the SOEs, the industrial sector, other sectors, and the private sector as a whole. This will include an assessment of the budgetary needs of the SOEs – not just their demands in the form of their annual bids
4. **Essential to install an “enabling policy environment”**
 - SOE policy needs a framework of parallel policies which enable the restructuring of sectors, privatisation of SOEs, and growth of the private sector
 - The Framework consists of a Package of Policy Pillars – can’t build a house with a roof and one wall : you need the foundations and numerous policy pillars like
 - a legal pillar (good property, company, overall privatisation laws),
 - trade policy pillar (local market, external trade, red tape analysis),
 - financial policy pillar (exchange rates, interest rates, capital markets),
 - private sector development pillar (strengthening management, corporate leadership),
 - regulatory pillar (technical standards, prevention of restrictive practices, anti-monopoly regulation, corporate governance),
 - social policy pillar (labour law, safety net, labour mobility)
 - etc. etc
 - The policy environment is only as strong as its weakest link in the chain – and that is typically policy management and implementation. You may have the best laws but no efficacy of the judicial administration, the freest trade policy but a private sector run by local mafias
 - Remember that a free trade policy does not mean a policy-free environment – free trade depends on fair trade rules and the parallel policies which sustain the rule of law and stability. Take the example of Hongkong which went for a free trade policy and zero government intervention back in the 1960’s – but they had a parallel programme of cleaning up corruption, cutting out red tape, enforcing high product standards, promoting competition (even against vested interests of the British ‘hongs’), improving infrastructure, and social policies for public housing and education. Now they recognise that they should have done more on environment.
5. **Essential to coordinate the numerous policies in the “enabling policy environment”**

- Different policy reforms by different ministries need to be coordinated, otherwise each ministry will set its own agenda and its own schedule for its own convenience, not for the country as a whole
 - The process becomes as important as the product, so policy management becomes as important as the policy itself
 - The process of transition / transformation is almost as important as the end result. Many SOE restructurings have just concentrated on Before and After – but have overlooked the Middle. The transition costs can be huge if the process is mishandled, and can outweigh the net gains achieved at the end of the process (but are often excluded from the equation).
6. **Any merger of ministries needs to be part of a broader restructuring of government.**
- Marry in haste, repent at leisure : the proposal to merge Ministries of Industry and Trade looks good – but there may be better and more marriage partners out there in the government, so as well as merging MIM and MoT, may need to look at Ministry of Technology, Standards Institute, regulatory functions of Ministry of Justice etc
 - Cannot forget the minerals – these may be kept with Industry or merged with Oil, or Water, or Agriculture, as a Ministry of Natural Resources
 - Any restructuring should be based on a clear strategy : you design the organisation to fit the business strategy, not the business strategy to fit the organisation. The history of M & As in the private sector show what goes wrong when mergers are based on CEO ambitions rather than business sense
 - Need to check on emerging policy themes and priorities, such as competitiveness, or technological development, and ensure that the new structures will
 - There is a proven procedure for restructuring and merging government departments : just as one builds a corporate merger on analysis of SBUs, synergies and duplications, one builds a government restructuring on Function Review (what is this Ministry doing ? Why is it doing it ? Is it doing it well ? Could it do it better ? Could someone else in government or private sector do it better ?)
7. **In US terms, think State, not Fed.** The industrial strategies should be like the state level economic regeneration strategies. While the US has never had SOEs, many states have had to cope with obsolete smoke stack industries or over-protected agriculture competing against foreign and out of state competition. Many of the methods which worked in states could work on SOEs in Iraq, and the problems associated with obsolete industries in the states would be explosive here.
8. **The bottom line - let's do the right thing the right way.**
 There are many ways of skinning a cat – once we have set our objectives we can find innumerable methods of achieving them
 Keep in mind the implications and manage the risks – the apparently best strategy may have the highest costs

Keep in mind the 'Counterfactual' – what would happen if we do not privatise, especially the costs of just keeping the SOEs as they are
Follow due diligence and due process – otherwise we are open to accusations of professional incompetence or negligence.

To: (b)(6) CPA Senior Adviser MIM

From: (b)(6)

Subject: Short Term Strategy for MIM

Date: March 24, 2004

The wage issues related to the transition from 4 to 11 pay steps for all government employees will incur immediate costs to CPA, and will trigger a number of policy concerns related to the restart of SOEs. Mr. Gillibrand summarized these in his memo to you of 19 March 2004. The core concern is that the decisions now being made fit into a larger picture of Iraqi recovery that leads to a thriving restored private sector. We continue to be concerned that the present momentum is towards decisions made for the short term rather than in light of a comprehensive strategy for regenerating Iraq's economy.

Under discussion at this time in MIM is a framework for shaping a strategy. It has been drafted on the basis of our initial consultations with the Minister, Mr. Tofiq, and his Chief of Staff Mr. Taha Ismahil Muhammad. It flows from the premise that Iraq seeks to establish a diversified economy. We will share a revised draft acceptable to MIM shortly. For immediate purposes we direct your attention to the short-term action it contemplates. In italics below is an extract from the draft.

2. Short-term Survival

Objectives (1 year)

1. *Secure existing industrial fabric*
2. *Restore Salaries*
3. *Sustain Essential Short-term supplies*
4. *Keep-Options alive and open*
5. *Kick Start Economic Activity*

Prerequisites:

1. *Power, water (telecom)*
2. *Supply & Distribution Chain*
3. *Operating Payment System*
4. *Materials and Equipment*
5. *Security*
6. *Empower Management and Staff to seek new markets, develop new skills*
7. *Encourage Customers to seek new suppliers from local manufacturing*

Immediate Actions:

1. *Convene Emergency MIM Advisory Council linked to a National Industrial Transition Coordinating Council*
2. *Conduct Immediate MIM Industrial Survey: assess total economic and social net cost/benefit of restart (these may be non-leased companies, assuming a lease means restart for leased companies)*
3. *Initiate Selective Remedial Action*
 - a. *Reopen, on a performance basis, all that can break even in current market conditions*

- b. *Identify urgent non-investment needs (repairs, training, startup raw materials) and provide on a performance basis*
- c. *Monitor performance*
- d. *Provide survival business consulting to mitigate non-performance*

Clearly, square one, which must be cleared as soon as possible, is restarting all viable SOEs and dealing sensibly with those that are not. The point is to revive as quickly as possible those industries that have promise and to deal squarely with those that do not. Eventual privatization, or imminent leasing are set aside for the immediate goal of getting things going. The wage scale issue is involved here. People associated with potentially viable operations should be drawing wages at work again. The basic repairs (enhancements can come later) and basic raw materials they need to make this possible should be forthcoming, even though this may require budget adjustments. The security benefit is obvious.

For those unfortunate enough to have been associated with an industry with little prospect, whatever the reason, life must go on. Here is where the benefit should be now redefined as transition assistance (it's acceptable to use the same pay scale if that is the expectation already created) and true transition assistance should also be provided. There are fragments of a transition program popping up throughout CPA, but they do not yet seem organized into a package offered as such to dislocated workers. Missing, is a program that will work directly with dislocated workers at or near their worksites helping them plan individual strategies for taking advantage of vocational training, new job creation, entrepreneurial assistance, etc.

As pointed out in the 19 March 2004 Memo, these costs could reach to \$1,360 million, based on rough estimates. In terms of turning around a costly and degenerating situation, it may be a cost effective allocation.

The 11-tier system pay increase on its own is estimated to cost \$560 million, leaving little else of the \$600 million authorized overall for MIM. Maybe it can buy some electricity, which is of little use if there is no money for other essential raw materials or repairs. There is little point in simply extending salary replacement (throwing good money after bad) if solving one problem but not others and finding the factories still completely or mostly unoperational.

It may be better to look at the pay step and salary adjustment system as part of a larger scheme to jump-start the economy, putting people back to work and stimulating demand for goods and services. Viewed from this perspective it is a piece of essential economic reconstruction, not just another band-aid laid onto a body that really has a virus and won't be helped by its application. Initially, simple wage replacement was warranted. To arrest the deterioration of the social and economic situation, however, a more pragmatic approach is now needed.

To: (b)(6) CPA Senior Adviser,
From: (b)(6) FID Consultants MIM
Subject: Short Term SOE Restart Strategy
Date: April 2, 2004
CC: (b)(6)

Background

Our memos of 19 and 24 March 2004 have set forth reasoning for looking beyond an immediate government worker, including SOE workers, salary patch to a long term strategy for Iraqi industrial development. From this perspective attention shifts to salary supplements as one of several immediate measures aimed at restarting factories with reasonable prospects for immediate contribution to the reconstruction effort or reasonable prospects to reach break even status. Survival and stability require securing the existing industrial fabric, sustaining essential short-term supplies, keeping future ownership structure options alive and open, restoring salaries and giving a kick start to economic activity. As we further discuss options with the MIM management staff, we more strongly believe kick start is feasible for a large number of MIM plants.

Immediate assistance should go to reviving all industries with promise while coming to terms with those that do not and organizing a coordinated set of dislocated worker programs to accompany any wage replacement. This must be done in a consistent manner for all SOEs, not only those held by MIM.

In this memo we revisit briefly the rationale and provide suggestions for concrete steps to approach a restart program that adds productive work to the salary replacement equation. We also provide a framework for assessing the total positive and negative costs of this approach. This is offered as an independent 'second opinion' which could serve as a check list for your own progression of activities.

Proposal for a Strategy for SOEs

The following points could be covered in a draft strategy document explaining the reasoning behind selection of this approach:

1. **Current position of SOEs.** The State Owned Enterprises have always performed an essential economic function in all sectors in Iraq. They were the sole providers of essential public utilities, the leading providers of most public goods and services, well and most consumer and industrial products. They have also been the source of secure employment for a level of 500,000 people. All SOEs suffered from chronic lack of investment and from distorted policies that have undermined their viability. Many have also been damaged and some destroyed by war and subsequent looting. After 35 years of centralised state control over the economy, the once vibrant Iraqi private sector is now relatively small and has limited capacities for investment, operations, management, labour force absorption and technological development, other than in the retail sector.

2. **Economic principles of state and private ownership.** In any modern economy the state ownership of enterprises is unsustainable for a number of reasons. Real lessons of experience, with very few exceptions demonstrate that state owned enterprises are not as operationally efficient as privately owned companies. Government direction proves less efficient than market forces in allocating capital investment. Even where state owned enterprises have achieved high levels of operational efficiency, and judicious government investment has contributed to rapid economic growth and social development, the high levels of investment required for efficient modern utilities and infrastructure cannot be maintained by governments without very high taxation, which in turn has other detrimental effects on economic growth. Hence the national and international capital markets are needed by every country to provide the funding for long term infrastructure through public-private partnerships. Additionally, the presence of state owned enterprises, even in only a few sectors, can 'crowd out' the private sector and constrain its natural growth.
3. **The Strategic Challenge.** But the transition from a centrally controlled to a free market economy is a difficult process needing careful management and sufficient time to be successful, with recognition of the costs of transition as well as the benefits of the end results of a private sector economy, while keeping in mind the costs of delaying the change from a centrally directed economy. The transition in Iraq is further complicated by war damage and supply constraints, especially of electricity. There is evidence, as well, of Iraqi public concern over what might be seen to be asset stripping and of large scale redundancies. There is a need for a judicious combination of essential short term remedial actions and long term development requirements. In some cases there may be a conflict between short and longer term imperatives where a judiciously balanced solution will be required.
4. **A Strategy for SOEs.** The SOE strategy will need to encompass:
 - Long term goals for the economic and social development of Iraq
 - Medium term objectives for the restructuring and privatisation of the SOEs
 - Short term remedial targets for SOEs to contribute to the re-start of the Iraqi economy

The long term goals and the medium term objectives will be decided by the new Iraqi national government, while the short term remedial targets need to be set by the CPA to deal with urgent challenges without compromising the options for medium and long term policies. For illustrative purposes, the long term goals to be achieved over the next 20 years could include, inter alia:

- Diversify the Iraqi economy away from dependency on crude oil
- Fostering of an advanced technology economy
- Achieving living standards equivalent to OECD standards for all Iraqi citizens

Examples of medium term objectives to be achieved through the restructuring of SOEs often cover multiple economic, political and social functions, such as :

- Eliminate budget deficits caused by direct and indirect subsidies to SOEs
- Reduce the government administrative load
- Improve operational and allocative efficiency in key sectors

- Boost opportunities for the private sector
- Establish a support structure for labour market flexibility
- Promote the competitiveness of the national economy
- Develop local capital markets
- Promote consumer welfare through improved public services
- Reduce the role of the state
- Promote widespread private citizen ownership

The relative priority allocated to each of these various objectives can significantly influence the approach to restructuring and the methods of divestment from the state to the private sector. For example, if the priority is to rapidly reduce budget deficits the optimum methods would be trade sale or leasing to private companies; but if the priority is to develop capital markets and promote widespread ownership the methods would include pre-privatisation restructuring and flotation on the stock exchange.

The short-term targets will need to include:

- Rapid start-up of those SOEs that have potential to be self-sustaining by earning sufficient revenue to cover their operational costs, especially salaries
- Repair and maintenance to regain operational capacity of those SOEs that can provide essential consumer products and construction materials to ease the supply chain in the domestic economy
- Medium term transfer to the private sector through lease or other arrangements of those SOEs that can attract private investors, through carefully prepared and transparent contracts that do not forfeit the medium and longer term options of the government
- Closure of those SOEs which are too damaged to repair, or are found to be fundamentally unviable, with targeted programmes to redeploy the staff and mitigate negative social and supply impacts of the closure.

These short-term targets will require the implementation of a rapid turnaround programme, providing essential utilities and of supply and distribution elements in combination with release of funds for operating costs. The programme will be managed through strict cost control measures, to ensure that the total economic, financial, environmental and social gains from the injection of funds are greater than the costs of restarting the enterprises.

5. **Enabling policy and regulatory environment for restructuring SOEs.** The way forward to the restructuring of the state enterprises should be prepared by introducing an appropriate system of market regulation, including the disciplines of market competition, the presence of efficacious legal and other regulatory instruments to cover instances of market failure and anti-competitive behaviour, and an effective institutional infrastructure to promote good corporate governance and self-regulation.

Framework for formulating SOE strategy

1. **Assess the position of SOEs**

In the professional judgement of the Technical Department of the Ministry of Industry and Minerals, the indicative distribution of MIM SOEs by viability is:

Total number MIM SOE companies (many include multiple plants)	:	53
Non-commercial institutional SOEs	:	6
'Star' SOEs capable of sustaining their salaries and operating costs :		14
'Dog' SOEs, destroyed or economically unviable in any conditions	:	10
'Cash Goat' SOEs, capable of break-even production to pay salaries	:	23

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2. Set the Objectives for SOEs

Preliminary: recognise that SOEs are part of a. broader industrial/trade/agricultural /economic strategy, and that strategic objectives and options have political and security implications

Alternative or multiple strategic objectives:

- Prevent disturbances among up to 400,000 SOE employees and their families, with potential consequential damage to SOE factories
- Secure supplies of essential materials from local producers for reconstruction
- Generate revenues to contribute to salaries for SOE staff
- Kick-start the local formal sector economy
- Introduce a credible and sustainable salary system
- At least avoid dislocation of medium term industrial development strategy, at most contribute directly to industrial development

3. Recommended Mission

To restart the viable SOEs so that they can:

- keep their staff working and off the streets
- cover their salary bills
- contribute to critical supplies
- kick start the economy
- buy time for medium term restructuring

4. Indicative financial requirements for the Mission (for the MIM SOEs only)

A package of investments to achieve the economic, security and social returns. The current indicative estimates based on available information from the MIM are:

Task	Financial Needs
a) allocate salaries on 11 tier basis, as a legally binding commitment and expectation of all employees (to be held by MIM but not all disbursed to SOEs)	\$ 300 million
b) connect electric power to priority SOEs	\$ 300 million
c) repair 'star' and 'cash goat' SOEs to operations	\$ 350 million
d) cover SOEs initial operational start-up costs	\$ 100 million (?)

e)	cover redundancy and redeployment for employees of 10 dog SOEs	\$ 10 million
f)	Contingency to cover balance of total salary costs	\$ 361 million
	Gross cash requirements	\$ 1,381 million
g)	Potential cash revenues from SOE product sales	\$ + 381 million
h)	Net cash requirement	\$ (1,000 million)

To be set against

i)	Guesstimate cost of security operations covering 53 SOEs	\$ 100 million
j)	Guesstimate cost of destruction of industrial plant	\$ 500 million
k)	Guesstimate cost of emergency welfare operations for 100,000 employees and dependents	\$ 100 million
	Total opportunity costs	\$ 700 million
	Net Total Cost to Budget	\$ (300 million)

5. Alternative Scenarios and implications

- a) Stay within \$ 761 million budget ceiling, pay 11 tier salaries only
 - gain security and social welfare but factories close due to no repairs and electricity, SOE workforce left idle
- b) Stay within \$ 761 million budget ceiling, cut salary budget to original \$481 million
 - security problems in 53 sites, still shortfall of c. \$ 350 million to cover all costs to start up SOEs, so many SOEs close due to lack of repairs and electricity, SOE workforce left idle

6. Recommendation

- a) Think outside the box of Budget Allocation of \$ 761 million as insufficient to meet the objectives
- b) Bid for additional \$ 620 million initial allocation for total \$ 1,381, with condition that all revenues earned by SOEs will be returned to Finance Ministry
- c) Disburse funds to SOEs for electricity connections, repairs, and initial salaries on performance management conditions that they cover all operational costs and salaries within 5 months and introduce sound salary system.
- d) The performance criteria will be set individually in each SOE (plant?) and will be agreed upon by management and a legitimate representative of the workers, in which a disbursement schedule and incremental performance is specified.

Critical Path to Kick-Start Operations at SOEs, (time frame: April – September 2004)

1. **Form special task groups in MIM and in each SOE to organise Kick-Start Programme.**

This task group could be chaired by the Minister and consist of a selected group of DGs and specialist staff drawn from the Ministry headquarters and from the SOEs. The task group could be supported by teams of consultants recruited from Iraqi accounting and management companies, and assisted by a few overseas specialist consultants. The MIM task group would manage the change process in the Ministry headquarters and liaise with other ministries, government agencies and private sector institutions on the national scale.

A parallel team would be formed in each SOE representing management and specialists, with additional attention to the inclusion of representation from the workforce, chaired by the SOE DG, to manage the change process in the SOE and liaise with local and regional government agencies and private sector.

2. Rapid Re-Survey and Triaging of MIM SOEs

Objectives: to identify :

- 1) which SOEs can be restarted to generate cash surplus in the short term, at least to cover salaries
- 2) which are unviable to extent that they are not worth restarting
- 3) essential factors for restarting each SOE
- 4) strategy for re-starting and future development

This re-survey will build on and update the information collected in the July 2003 survey and the valuation studies completed by Iraqi accounting companies in 2003; the earlier data needs to be checked and updated in rapidly changing circumstances. It may be noted that this process of 'triaging' SOEs is normally carried out in a large scale programme over at least one year and the survey of each factory typically takes at least three months.

The re-survey will use a consistent cost-benefit policy framework to assess the costs of restarting and operating each SOE and then the benefits in the form of direct revenues, essential supplies, and the indirect social and security benefits of restarting each.

Main actions

- 1) Training the task group and consultants in consistent methodology and standard survey form covering :
 - a) Number of SBUs in each SOE
 - b) salary costs to restart each SBU
 - c) utility investment and connection costs to restart
 - d) plant and equipment repair costs to restore production
 - e) operating working capital costs to restart
 - f) essential requirements to restore supply and distribution chain
 - g) redeployment / redundancy costs for staff in unviable SOEs
 - h) sales revenues to be generated by restarted SOEs
 - i) numbers of employees and dependents supported by SOEs
 - j) scope to contract out / buy-in local products and services
 - k) medium term strategy for restructuring
 - l) key features of local economic environment
- 2) Produce standardised survey form (modified version of July survey)

- 3) Preliminary desk-work assessment by Technical Department of all SOEs using available knowledge to identify those SOEs :
 - a) which are already considered to be unviable,
 - b) which are considered to be already started and self sustaining and could be eliminated from the survey.
- 4) Assemble and train 10 survey teams, each with 4 specialists (1 business strategy analyst, 1 production engineer, one financial analyst, 1 HR specialist)
- 5) Carry out re-survey using standardised form. Each team to re-survey about 4 SOEs in one month, based on estimated need to survey 40 SOEs (13 assumed to be unviable or self sufficient), for 1 week per SOE.
- 6) Compile results of survey to triage SBUs in all SOEs to be :
 - a) Restarted at full capacity or pre-war capacity
 - b) Restarted at break even capacity
 - c) Restarted at cash loss capacity, but at least enough to cover salaries and generate positive benefit-cost balance
 - d) closed down permanently
 - e) mothballed
- 7) Survey scope to contract out to or stimulate local small business suppliers
- 8) Identify essential factors and critical path to restart successful SOEs
- 9) Prepare business strategy and critical path for each restart SOE
- 10) Prepare staff redeployment and close-down plan for each closure SOE

3. Coordination of essential services to enable start-up

Objectives :

- a) to assess quantities and costs of essential services to restart SOEs
- b) to prepare critical path for delivery of essential services
- c) to ensure SOEs are sufficiently funded for successful restart
- d) to design short term turnaround plan for each SOE (with medium and longer term strategy)
- e) to implement effective performance contract to phase release of funds to achievement of performance targets

Main actions : to prepare

- 1) Short term company turnaround business and operational plan for each SOE, to be agreed between SOE management and MIM, to form basis of performance contract
- 2) critical path for connection of essential utilities to each SOE (electricity, water, wastewater, telecoms)
- 3) critical path for supply chain of essential production materials to each SOE, agree delivery with ministries/agencies responsible for each input
- 4) critical path for installation of distribution chain for each SOE, agree deliveries with each agency/company in the distribution chain
- 5) phased budget allocation for start ups and short term turnaround
- 6) phased performance targets, start-up to beneficial production
- 7) performance contract for each SOE linking funds disbursement to achievement of performance targets, agree with SOE DGs

4. Redeployment of staff in SOEs designated for closure

Objectives:

- a) to assess the numbers and types of staff to be redeployed
- b) to ensure optimum redeployment according to capabilities
- c) to ensure minimal social disruption
- d) to gain maximum efficient utilisation of the human resources from the closed SOEs

Main Actions

- 1) Census of all registered and actual employees according to age, skills, competencies and capabilities
- 2) Organize committee of workers and management to design process tailored to local conditions and needs within performance guidelines
- 3) Organize peer support and job club services to deal with uncertainties and redirect attention to transition
- 4) Identify and deal with ghost workers (if any)
- 5) Conduct local labour demand survey: liaison with local employment service of Ministry of Labour and Social Affairs, reconstruction programme's local labour force needs, needs for local small business suppliers, scope for contracting out by large companies to local suppliers, and other labour demands or entrepreneurial opportunities in the local economy
- 6) Identify spin-off possibilities and possible reconfigurations of subsets of the SOEs capacity that may have survival potential; develop privatization plan for these (employee-organized entities, joint ventures, investors)
- 7) Implement training programme for redeployed SOE staff, including tailored training for local needs/start up for small businesses, allocation to established vocational/higher education courses, introduction of new generic skills training (basic/advanced literacy for unskilled workers, 'computer driving license' courses for secondary-educated workers, or other skills as identified)
- 8) Establish access to small business incubation, consultation, and credit programmes for entrepreneurs and potential local SME employers.

5. Recommission factories under Performance Monitoring and Evaluation Objectives

- a) to commence and sustain beneficial production on interim basis
- b) to implement the integrated programme outlined above
- c) implement the short-term turnaround plan designed in above

Main actions

- 1) Micro-Management tasks to implement the start-ups
- 2) Monitoring of performance contract, with incentives and rewards for all staff who achieve and outperform key performance indicators, and evaluation of effective economic contribution to sectoral and national growth and employment as well as SOE profits

6. Medium and longer term restructuring of SOEs

Objectives

- a) shift SOE restructuring programme away from short term survival towards medium term restructuring and privatisation of SOEs and long term rehabilitation of industrial sector

Main actions

Ghost worker terminations

- 1) formulate comprehensive national industrial development strategy, including sectoral restructuring policies
- 2) within context of national strategy and sectoral policies, design the medium and longer term restructuring of the SOEs, including their potential privatisation

Upon indication that the kick-start approach is accepted and the additional funding for rehabilitation, raw materials and operating expenses can be forthcoming, this programme can be implemented in a six month period. At the end of that time frame the SOEs will have been sorted out by viability status and the most vulnerable workers will have gotten a start on an alternative economic future. Full commitment and intense technical assistance is needed to accomplish this.

Implementation Schedule for SOE Kick Start Programme

Task	Month	1	2	3	4	5	6
1. Form MIM and SOE Task Groups		x					
2. Resurvey SOEs and Triage			xx				
3. Coordinate Services to Restart			x	xx	xx	xx	xx
4. Redeploy Workers from Non-start SOEs				xx	xx	xx	xx
5. Recommission with M&E			xx	xx	xx	xx	xx
6. Restructure in medium term			xx	xx	xx	xx	xx

The activities of redeployment and restructuring carry on beyond the six-month timeline, but the course is set in place during this period. Redeployment activities will usually take less than a year. Restructuring may take up to three years. The approach suggested sets the stage for a seamless move from restart to restructuring where that is in order.

Annex: Pro Forma SOE Restart Estimates

General Statement of Financial Needs to Kick-Start State-Owned Enterprises Estimates by Enterprise for 12 months May 2004 – April 2005 In Iraqi Dinars

A. Costs for whole year

1. Total Cost of Salaries for all working employees on 11 tier basis =
2. Any additional costs to supply power requirements =
3. Cost of essential repairs to achieve pre-war production =
- (4. Cost of essential repairs to achieve break-even production =)
5. Non-salary operating costs for estimated one year's production =

Total Costs **= I.D.**

B. Estimated Revenues for whole year

1. Estimated revenues from product sales =
2. Estimates revenues from sale of stock =

Total estimated revenues **= I.D.**

C. Net Balance

1. A – C **= I.D.**

D. Performance Criteria

1. Funds are disbursed to SOEs for electricity connections, repairs, and initial salaries on performance basis. The criteria will include the conditions that the SOE cover all operational costs and salaries within 5 months and introduce a sound salary system.
2. Other conditions of the performance criteria will be set individually in each SOE (plant?) and will be agreed upon by management and a legitimate representative of the workers, in which a disbursement schedule and incremental performance are specified.



COALITION PROVISIONAL AUTHORITY
BAGHDAD

ACTION MEMO

May 7, 2004

FOR: THE ADMINISTRATOR
THROUGH: AMBASSADOR (b)(6) DEPUTY ADMINISTRATOR
FROM: (b)(6) DIRECTOR, PRIVATE SECTOR DEVELOPMENT
SUBJECT: SOE ACTION PLAN

In response to your comments, we have modified our proposed SOE strategy. This memorandum outlines a more modest approach for your consideration. It is intended to provide the future GOI with the opportunity to transition the SOEs toward a market-based environment while addressing immediate needs and reducing subsidies. The following recommendations should be achievable in the limited time left us (and will fit within our office's resource constraints). We have discussed aspects of this plan with Minister Tofiq (Industry and Minerals) and others, and we have reason to think that this approach will be well-received. We will take the next steps in this plan in coordination with other key Iraqi officials.

Financing

The 2004 Budget ~~devotes~~ \$750 million to SOEs, of which ~~\$500 million is dedicated to salaries and \$250 million to reform and capital improvements~~. We have requested \$140 million from the DFI for SOEs. If this is not available, we still have the \$250 million from the 2004 Budget. In addition, savings from the elimination of ghost worker salaries, discussed below in Element 1, could yield as much as \$50 to \$100 million (b)(6), is this correct? I just took 20% of \$500 million.] These savings should be used for capital improvements of strategic SOEs. Finally, the Madrid donors and the World Bank could be approached to help finance capital improvements and other reform initiatives.

~~Go part of it~~
Element I: Staying within the 2004 budget

~~fixed~~
limited

Goals

Ensure that the \$750 million provided for SOEs in the 2004 budget lasts the year and allows for capital investment. Manage headcount in ways seen by Iraqis as painless and even beneficial.

Actions

Work with the Ministries and SOEs to initiate an Identification Card program aimed at reducing "ghost" workers, thought to represent as much as 20 percent of payroll costs.

1 B Cap/sal for 502
4 Tier = \$800 m.

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2004 Budget later
to: 780 m total

Work with the Ministry of Finance to clarify the implementation of CPA Order #30. Ensure all SOEs are on the 11-tier management system. Salary subsidies from MOF should not exceed the amounts under the 4-tier system (with a few exceptions). Rules on transfer of profits from SOEs to MOF are controlled by statute. If these rules were relaxed for SOEs which fund their respective salary needs, firms could provide merit and performance-based increases cleared by their ministries and MOF. This would push firms to meet their own payroll costs and address the incorrect perception that the 11-tier system means a 40 percent raise. [LPB writes here, "But isn't it already being paid that way?" (b)(6) can you address?] CPA Finance favors this idea.

RECOMMENDATION (1): Request approval of Element I.

Approve: _____ Disapprove: _____ Approve with modification: _____

Element II: Fix or Expand SOEs in Strategic Sectors or Geographies

Goal

Speed the recovery or growth of selected SOEs (i.e. those in cement or other crucial construction materials, or those in economically sensitive geographic areas)

Actions

Effectively utilize those funds that have been allocated to provide capital and operational expertise aimed at crucial SOEs. If available, additional DFI monies could also be allocated to these needs. Turnaround teams may be made available (if resources and staff permit and the holding company's board of directors and Ministry approve) to speed operational improvement. To the extent possible, these efforts will rely on Iraqi experts and officials.

Approach Madrid and other multi-lateral or bilateral donors to ensure that efforts and resources are consistently focused on the most crucial SOEs.

We will need to provide for meaningful oversight of this effort from the future U.S. embassy.

RECOMMENDATION (2): Request approval of Element II.

Approve: _____ Disapprove: _____ Approve with modification: _____

Element III: Ensure fair competition

Goal

Ensure that private sector firms are not subject to unfair, chilling competition from SOEs.

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BAGHDAD

Action

Work with OGC to seek language in the draft competition policy law that limits the government's ability to give preferential treatment to SOEs, or to limit competition with SOEs, and that requires SOEs to operate in commercially appropriate ways.

RECOMMENDATION (3): Request approval of Element IV

Approve: _____ Disapprove: _____ Approve with modification: _____

ATTACHMENTS: Attachment A: Detailed Strategy

COORDINATION: PMO – Admiral Nash (ok)
OGC – (b)(6) (ok)
OMB and Finance – (b)(6) (ok)

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Creating the Mandate for Change

How to Address the Challenge of State Owned Enterprises in Iraq

A Concept Paper

by

(b)(6)

Senior Advisor

Ministry of Trade

(b)(6)

Background

The Ba'athist ideology in the sphere of organization of Iraq's economy largely followed examples models developed in the Soviet Union prior to the fall of Communism. Thus state owned enterprises (SOEs) played a leading role in the development of the economy although private enterprise was tolerated to a far larger degree than in the Soviet Union. The ministries of Finance, Agriculture, Oil Water, Communication, Electricity Housing, Industry and Minerals, Transportation, and Trade all own SOEs. Following Soviet models these SOEs also fulfill a social function far larger than those played by large enterprises in western developed economies. *Dealing with the challenge of state owned enterprises is thus a question of change management which must deal not only with the economic role of SOEs but also with the roles they play as symbols of Iraq's achievements and as social centers.*

Change Management

Any program which claims to address the challenge the SOEs pose to future development of Iraq's political economy must be one which can operate within the following constraints:

- Time
- Money
- Social and Political Inertia
- Lack of alternative employment.

The time remaining before return of sovereignty to an Iraqi government militates against a program of immediate and comprehensive privatization. Moreover, because privatization is likely to be accompanied by layoffs, promoting immediate privatization at this time is likely exacerbate political tensions. However, doing nothing is also a poor strategy because the employees of many of these companies realize that the status quo is not a solution and is in fact unsustainable due to budget constraints.

Given the constraints outlined above, it would appear prudent to create a process of incremental steps designed to reform the SOE sector of the economy. The process should be accompanied by an educational media campaign that makes it clear to employees of SOEs that there is no immediate threat to their jobs, but that there is a process of reform designed to address the problems in the SOEs and that privatization is one of the goals of the reform process. ***Fundamental to this process is that SOE management, and SOE employees as well as the public at large be educated to begin to think of SOEs as independent entities responsible for their own future rather than as arms of the government.***

The Incremental Steps

Creating the process of reform could involve the following steps:

1. Amending the existing Iraqi SOE law to allow for the creation of Trust(s) which would hold the SOEs of each ministry
2. Appointing a Board of Trustees for each Trust
3. Appointing outsiders to the Board of Directors of each SOE
4. Charging the Board of Trustees with seeking donor technical assistance for the SOEs in the Trust
5. Restructuring each SOE to make them viable candidates for full or partial privatization, leasing of select assets, joint ventures with foreign partners, etc.

Creating a Trust which would function as a holding company for a particular ministry's SOE's if accompanied by a proper educational publicity campaign could counter many of the fears associated with privatization. The educational publicity campaign should emphasize that purpose of the Trust is to safeguard the assets incorporated in the SOEs for the people of Iraq, create a structure which will be used to find and fund appropriate technical assistance for each SOE to help reform and restructure the SOEs so that the employees and the companies in whole or in part can be incorporated into a growing and vibrant private sector in Iraq.

The composition of the Board of Trustees is a critical element for the acceptance of the "process of reform." The Board needs to have one or two non-Iraqi businessmen who would be on the Board because of their stature, expertise, and ability to network in the international business/political community. The number of people perceived to be politicians appointed to the Board needs to be minimized because politicians do not appear to be highly regarded in Iraq. The Iraqis appointed to the Board could be drawn from private sector business and from cultural fields such as art, literature, music. The goal is to have a Board that is above all perceived as trustworthy and secondarily will look at the problems of each SOE from an unprejudiced perspective. The function of the Board of Trustees is to find and obtain official donor and non-governmental-organization technical assistance which will create a business plan for each SOE. The process of creating the business plan will involve creating financial statements in accordance with international accounting standards, addressing the technical and engineering challenges present in each SOE, marketing and sales plans. The business plan will address how the

company and or its assets can become viable components of the private sector economy. Among the factors to be considered is the conservation of human capital through retraining to provide the workforce with the skills needed to compete effectively in the new Iraqi economy.

To help drive this process of reform forward at least one non-Iraqi should be appointed to the Board of Directors of each SOE. (Neither of the two out of nine Board members appointed by the minister to an SOE under Law no. 22 has to be an Iraqi.) It will be the function of this non-Iraqi to start each SOE on the process of collecting adequate financial and business information to form the basis of future plans.

A balance sheet should be drawn up listing the company's assets. An agreement may have to be reached with the Ministry as to what assets are included in what the company owns. Some estimate of current value needs to be made using best available information.

A projected income and expenditure statement needs to be created for at least two years. This should list all expected expenditures and all sources of income. This will enable the Board of Trustees to form a minimal picture of what we can expect to happen in the company and provide a basis of planning for the future.

Neither of these steps needs the involvement initially of outside professionals. In fact involving outside professionals before these steps are taken would be counter productive. Without this information, outside consultants can do nothing and it will be the first thing they will ask for. Having ready whatever can be gathered before involving donor technical assistance will speed the process and make it substantially less expensive.

The technical assistance would be brought in as a second step to help create the business plan which will lead to privatization, leasing of assets, etc. Part of the assignment for the Board of Trustees and for the Board of each SOE is to evaluate the potential for an Employee Stock Ownership Plan (ESOP) and where it is a viable option to move toward implementation of an ESOP **structured as in the U.S. where the shares are held in a trust for the employees.** That the shares be held in a trust is a crucial element for creating conditions of widespread private property ownership which is a fundamental cornerstone of a modern democratic system.

Benefits of this Approach

This approach has a number of benefits. First and foremost it gets the Ministers out of the business of functioning as Chief Executive Officers of the SOEs. This will allow ministers to focus on questions of government rather than questions of business. The educational campaign and Boards of Trustees composed of respected dignitaries will do much to lessen fears of privatization leading to joblessness. The charge to the Board of Trustees to include ESOPS in their planning should strengthen public and SOE support for this process of reform.

Critical Missing Elements

There is no Trust Law in Iraq. The lack of a Trust Law makes it difficult to establish a Trust to act as a holding company for a ministry's SOEs. The lack of a Trust Law also means that shares owned by employees would in short order be held by oligarchs as in a number of former Warsaw Pact countries. To overcome these difficulties an existing law such as Law no. 22 of 1997 could be amended to enable the formation of trusts or a new law created by CPA order.



COALITION PROVISIONAL AUTHORITY
BAGHDAD

ACTION MEMO

January 2, 2004

FOR: THE ADMINISTRATOR
FROM: (b)(6) Component Head
SUBJECT: Sample Action Memorandum

State the issue for decision in the first paragraph. Double space between paragraphs and bullets. Use Times New Roman 12 point font. The logo header should only appear on the first page.

Action Memos should be one page when possible, but no longer than two pages. If necessary, include a longer discussion as an attachment to one Action Memo. In the case of a larger package with multiple attachments, include a clear list of attachments in the Action Memo and use tabs to identify your attachments. (If tabs are unavailable due to supply limitations, use post-it notes and letter each.)

Be sure to include a list of those persons with whom you coordinated the memo at the end of the Memo. Use a new page if necessary.

RECOMMENDATION (1): Complete your Action Memo with a clearly stated recommendation and include decision blocks underneath.

Approve: _____ Disapprove: _____ Approve with modification: _____

RECOMMENDATION (2): Include multiple bullets/recommendations if necessary. If you are asking the Administrator to sign a letter, include that request, and attach the letter for signature (remember not to include the date on the letter).

Approve: _____ Disapprove: _____ Approve with modification: _____

ATTACHMENTS: NONE (or list and tab accordingly)

COORDINATION: General Counsel/Jane Doe - ok
OMB/John Q. Public - non concur

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and cultural

Previous efforts at SOE reform have been stalled by keen political sensitivities. Left unaddressed, however, the SOEs impose high subsidy and other costs, and they pose real risks. These risks include the potential for social unrest, perpetuation of a welfare dependence, the creation of government monopolies, and the suppression of private sector industry. This memorandum proposes a program, crafted with an eye to political practicality, for putting the SOEs on a road to reasonable reform, reducing both the high costs, and the risks.

The program, which focuses on the 153??? non-oil, non-electricity SOEs, consists of three main parts:

1. Making the Workforce Issues Manageable
2. Saving What is Viable, Salvaging What's Not
3. Avoiding Future Problems

The first part of this document goes into detail on these three main elements of the plan, in essence describing what we think should be done. The second part of the document addresses the specific timing and assignments for action on the plan, the "hows" of getting the job done.

In this second section, we specifically identify what we think can be accomplished prior to June 30. Our goal is to get enough launched now so that the future sovereign government, in 2005, will find it easy to make economically logical choices about SOEs.

8mvl

Part I: Elements of the Reform Plan

Iraq is actually fortunate that it's non-energy SOEs comprise no more than 5% of its workforce and probably a smaller proportion of its GDP. Certainly, some countries in the former Soviet bloc had it worse. Our proposed approach calls for active, immediate, and relatively painless steps to shrink the size of the payroll subsidy, without forced job reductions. Next we propose to put viable companies on a glide path to reform, allowing maximum economic freedom for appropriately motivated corporate governance structures. We also address the non-viable companies and their employees. Finally, we suggest a few actions to head off inappropriate legal and regulatory what?

Making the Workforce Issues Manageable

It is no small thing to reduce the budgeted \$500 million in 2004 salary subsidies (an amount that could increase under certain circumstances) without triggering

Inconsistent w/ SOE

social troubles among what may be as many as 500,000 SOE employees. Consequently, we have tried to devise ways to reduce the size of the problem using incentives and reassurance, although the biggest results come from addressing "ghost" worker fraud. Specifically, we suggest *may*

1. Dealing with "Ghost" Workers. We have ~~some~~ evidence that some considerable portion, perhaps 20% or more, of the SOE payroll consists of "ghost" workers, whose pay is siphoned off by corrupt managers and officials. Field experience suggests that one way to deal with this is through photo identification cards for employees paired with a matching process for pay packets. Such systems are already being deployed within the Iraqi ministries.
2. Enticing Accelerated Retirements. Based on early indications of the savings from ghost worker program, we could fund some level of one time bonuses for workers of a certain age who opt for early retirement. By making the bonus a one-time payment, we reduce the subsidy in future years.
3. Encouraging Voluntary Resignations. We have a number of tools for enticing non-retirement age workers out of the SOEs.
 - a. On the same principle as with retirees, we could offer bonuses for those who choose to separate. This reduces future year subsidies.
 - b. We can also make vocational training and access to reconstruction jobs preferentially available to SOE volunteers. Locating vocational training centers and PMO/MOLSA placement offices in selected SOEs would make this option more attractive.
 - c. We can offer certain PSD loan and small business training and consulting programs to SOE volunteers, again on a preferential basis
4. Clarifying the Pay Policy. We believe the Ministry of Finance should issue a joint statement with other SOE owning Ministries on the issue of compensation, with emphasis on the 4-tier and 11-tier systems. Specifically, the policy should make clear that any shift to an 11-tier system that involves an increase in total payroll outlays, must be paid for by the SOEs own funds and will not be supplemented by increased subsidies from the central treasury. If an SOE cannot afford the *subsidies* increase or the transition, it should not begin it. *That exceeds a long time*

Taken together, these actions should yield substantial reductions in the payroll subsidy costs and in the political inertia tied to the size of the SOE workforce. It will be important, in implementing these actions, to pay close attention to facility-level communications to make sure that the voluntary nature of options

MoF/MOP need to be clear that overages of budget will not be bailed out.

2 and 3, and the financial incentives are clearly understood. In addition, personnel at non-viable SOEs should be offered additional options for transfer to viable SOEs, to further reassure them.

Saving What is Viable, Salvaging What's Not

A path must be found to redeem those companies which are viable, while disposing of the assets of those that are not. Since only a future sovereign government has the power to alter the ownership status of the SOEs, we have attempted to propose actions now that will leave the 2005 elected government with an economically sensible choice for ownership reform that is difficult not to make. Our program seeks, then, to deal with viable SOEs first, touching on their governance structures, control and accounting capabilities, and on the turnaround or expansion of their operations. Subsequently, we propose a program for easing the transition of agency and non-viable SOEs.

Viable SOEs

The viable SOEs present special challenges. Our goal is to structure them to become effective competitors and significant self-supporting employers, while making it as easy as possible for their ownership to change. We also address the issue of performance improvement, particularly for a subset of the viable firms whose improved or restored operations in critical locations may be useful in advancing security and other interests. For this subset, we suggest an emergency action program.

Governance

We believe that all viable SOEs should be grouped, on a logical basis (related industry perhaps) into some number of trusts. The trusts, owned by the government, should have boards of directors, composed to be as independent as possible.

1. As part of the establishment of the trusts and the boards, we will initiate contracts for the provision of certain outside services, namely
 - a. An outside audit firm for each trust and its subsidiary companies. This work would begin after the work in the next item is well along.
 - b. An outside accounting firm for each subsidiary company charged with implementing adequate accounting and control systems and procedures in each viable subsidiary, capable of generating

finding 2

auditable financial statements in accordance with international accounting standards

- c. An outside investment banking firm on retainer to the trust. The role of these firms, which would not begin until late 2004 or early 2005, would be to prepare a menu of strategic options for the trust's consideration. These options should include, but are not limited to:
 - i. Spin-off of all or part of the equity or assets of the subsidiaries to private Iraqi investors or others
 - ii. IPO of the subsidiary
 - iii. ESOP
2. The boards of the trust should be appropriately compensated, with the possible exception of government members of the board. In addition, there should be incentives for board members tied to the proceeds of any strategic transaction involving their trust's companies. We may also want to offer the board members bonuses based on cash generation, but these should be capped with care.
3. We should provide, in law, that the boards of the trust companies will have the authority, after the accession to power of the future elected, sovereign Iraqi government, to engage in strategic transactions involving their subsidiary companies, unless specifically instructed not to by the relevant government authority of that future government. Proceeds of any such transaction, of course, belong to the government.
4. The boards should also be able to pursue interim steps such as leasing of SOEs and joint ventures. Counsel should advise on the appropriate requirements for transparency and for control, in the case of joint ventures, to avoid problems with alienation of the control position currently owned by the government.
5. The boards of the trusts shall be considered the stewards of the assets under their care, and it shall be their duty to try, through the mechanisms normally in the power of such boards, to improve the performance of their subsidiary companies.

The idea here is simple: sometime, shortly after the election and installation of the future, fully sovereign government of Iraq, the boards of the trusts with viable companies will receive bids for the ownership of the trust as well as alternative options including IPOs and ESOPs. These bids, assuming operational improvements and a better security environment, should be attractive and the timing should be such that it is the easiest moment for the future government to say, "yes."

Performance Improvement

For SOEs brought under the umbrella of trust companies, we propose an emergency action program to accelerate the improvement or restoration of operations of a select group of critical SOEs. For other viable, but non-critical SOEs, we propose the same performance improvement process, but on a less urgent timetable.

The *Emergency Action Program* consists of the following steps:

1. Identification of viable SOEs in critical areas
2. Approach DFID, Madrid Donors, USAID, and others to see if any turnaround management capability can be deployed on short notice to the selected SOEs. Alternatively, we can consider using other funding sources to compete for provision of appropriate consulting services
3. Perform an initial assessment with an eye toward outlining a directionally correct action plan. This plan does not have to be scientific, or perfect, it just has to be good enough to get things started
4. Review the plan and allocate capital using either the 2004 budget or DFI funds that may be available

There is some money in the 2004 budget for capital improvement. A portion of these funds should be allocated to the priority SOEs. The remainder should be held in reserve to ensure that we can make all the 2004 payrolls. As the ghost worker and voluntary reduction programs kick in, it will be possible to commit funds from the reserves.

We have also requested \$140 million from DFI for the SOEs. This money would be used for capital equipment and other projects contemplated in the emergency action program, ghost worker and voluntary reduction initiatives, as well as for the accounting, audit, and investment banking contracts discussed previously. Without these supplemental funds, it will be difficult to move as broadly as we propose here.

Agency SOEs

We have already prepared a list of Agency SOEs, meaning SOEs that really should be continued as government agencies. Examples include the geological survey, water testing service, and _____. We recommend issuing appropriate orders reassigning and reclassifying these entities, a list of which are

included as Attachment X. It is important to do this promptly and to include these agencies in the 2005 budgeting process.

Non-Viable SOEs

There are approximately X non-viable SOEs, across Y ministries, representing Z employees. The types of business include _____, _____, and _____. It is our view that there is not time, resources, or good enough odds to save these firms. In the case of some of the military enterprises, there is no wish to restore them nor any alternative use.

Our objective with these SOEs is to ease the transition of the people, and position the GOI to recover as much cash as possible from disposal of the remaining assets. Given the press of other priorities, we suggest that these tasks be divided for the GOI to handle. Specifically, we suggest that MOLSA be tasked with the transition of the people, drawing on support from ongoing job placement, vocational training, and private sector development programs.

The task of recovering value from defunct assets should go to the MIM. A special office, possibly with outside accounting or auditing support, should be established to turn dead assets into cash. Counsel should advise on whether this can be accomplished by the interim government, or must wait for the fully sovereign GOI.

Avoiding Future Problems

There are two potential long term problems that we should attempt to head off now. The first is to impede any future tendency to carve out a privileged or monopoly position for SOEs, to the disadvantage of real private sector companies. The second is to ensure control over the substantial landholdings embedded in the SOE properties.

With regard to the SOE advantages, we understand that OGC is including useful restrictions in the anti-trust legislation they are drafting. With regard to landholdings, we believe that the most we can accomplish in the near term is an inventory of the holdings. Additional recommendations may follow on this point.

Part II: Implementation, Timing, and Responsibility

Our goal for implementation is to do enough prior to June 30 to give us reason to think that the overall program, or at least the most sensitive elements, will be hard to derail. Naturally, the implementation plan falls into two blocks, pre-June 30, and post-June 30. This discussion focuses at a high level of detail. The more nuts-and-bolts action plan is in Attachment A.

Pre-June 30

Here are the most important things we need to get done before June 30 (with the lead responsibility in parentheses). Completion of some of these tasks is contingent on availability of supplemental funds from DFI. The contingent tasks are marked with an asterisk.

1. Create a Trust Law for Purposes of Holding the Viable SOEs
 - a. (b)(6) Dept. Counsel, OGC
2. Create Boards for the Trusts Needed, Nominate Members and a Chairman for each
 - a. (b)(6) in coordination with Ministers and other Senior advisors
3. Assign, via an order, the SOEs into the appropriate Trust Companies
 - a. (b)(6) Ministers, Senior Advisors
4. Bid, negotiate and sign contracts for control system, audit, and investment banking work*
 - a. (b)(6)
5. Initiate the employee ID process and set a roll out plan (it will take longer than the time remaining to implement, but we can start now)*
 - a. (b)(6) Finance Senior Advisor and Ministry
6. Develop retirement and voluntary separation plans*
 - a. (b)(6)
7. Carefully craft a communications plan for each SOE and each facility, customizing our message to be clear and as reassuring as possible. Initiate rollout timed with the implementation of the ID process and the availability of the retirement and separation incentives
 - a. (b)(6)
8. Assign someone to head the Emergency Action Program and get it launched. The capital requirements for this are tied to DFI monies.*
 - a. (b)(6)
9. Prepare appropriate orders shifting agency-SOEs to their intended ministries

a (b)(6)

10. Include in the anti-trust law, currently being drafted, provisions impeding the government's ability to create non-oil monopolies, or other preferences for SOEs.
 - a. OGC
11. Work with MOLSA on transition of staff from defunct SOEs
 - a. Senior Advisor, MOLSA

SOE SKETCH

This document lays out two proposed approaches to SOEs, each comprising a complete set of actions. These actions have been developed with an eye toward the sensitivities that understandably emerge when this topic is discussed. This document has been minimally discussed with other concerned offices and officials. There will no doubt be considerable input and reaction and we need an opportunity to walk it around and get additional input and ideas.

Issues:

- 1/3 min*
1. Burn Rate/High Subsidy Requirements/Social Concerns
 2. ~~Low~~ Sustainable SOEs
 3. Threat to Private Sector - *negotiable now*
 4. Problems with Strategic Transactions
 - a. Inexperience
 - b. Political football

*→ Command Economy / Culture
Tradition of Factories*

Policy Options

For purposes of discussion, we are considering a passive approach and an active one, depending on our appetite for the work. The elements of each approach can be combined to create something in the middle.

Passive Approach

*Evaluation Legal
Obligation to SOEs?*

The passive option is based on taking minimal action and allowing time to reduce the scope and magnitude of the SOE issue. Growth of the real private sector will drive this process naturally, and reasonably quickly, but there are risks that need to be addressed. The risks, a subset of the four issues cited above, and some suggested solutions, follow:

1. Running out of Cash – it is not likely, but it is possible, that SOEs may use up all of the cash budgeted for their salary and other subsidies.

RESPONSES:

- a. Help the government institute VOLUNTARY buyout and retirement programs to lower headcount and burn rate
2. Government Monopolies – it is possible, and maybe probable, that the future government may succumb to pressure to declare SOEs exempt

from competition or to move to hobble competition with them.

RESPONSES:

- a. Put legal hurdles in the way of this through the drafting of the anti-trust law currently on the agenda for OGC
 - b. Work with IMF and others to educate and discourage official thinking along these lines
 - c. Condition bi-lateral or multi-lateral programs on preservation of an open competitive marketplace
3. Uneven Playing Field – SOEs may take advantage of their position to kill off real private sector competition (especially for reconstruction contracts and subcontracts) by underbidding. This is possible because there is no real requirement that they make a profit, or a market return on assets or equity, and because they have substantially subsidized factor costs. RESPONSES (these have not been reviewed or discussed with the PMO, which will have reasonable and serious concerns about them):
- a. Require the PMO (USAID funds cannot go to SOEs) to review SOE bids with an eye to reasonableness. A more stringent version of this would be to reject any unreasonably low SOE bid or to automatically bump up SOE bids by some amount for purposes of evaluation, but to accept their bids as given if they are still low after the penalty.
 - b. Alternatively, the PMO could accept SOE bids only if they are, well below the low priced private bidder. This will go some way to make SOE returns comparable to private returns and at least doesn't reward them for their privileged position.

Active Approach

The active approach aims to deal directly with the full suite of SOEs issues using all tools available to us, within the practical political limits. This option focuses in full on each of the four issues noted above. Specifically:

1. Burn Rate/High Subsidy Requirements/Social Concerns

- a. Cut costs in a socially sensible manner
 - i. Reduce ghost workers (photo id teams)
 1. May yield a 25% reduction or more
 2. Could be implemented quickly
 - ii. VOLUNTARY Buyouts, pension bonuses
 - iii. Preferential targeting for vocational training, stipends
 1. Coordinate with PMO to get trainees into jobs

*Do now w/
available funding.*

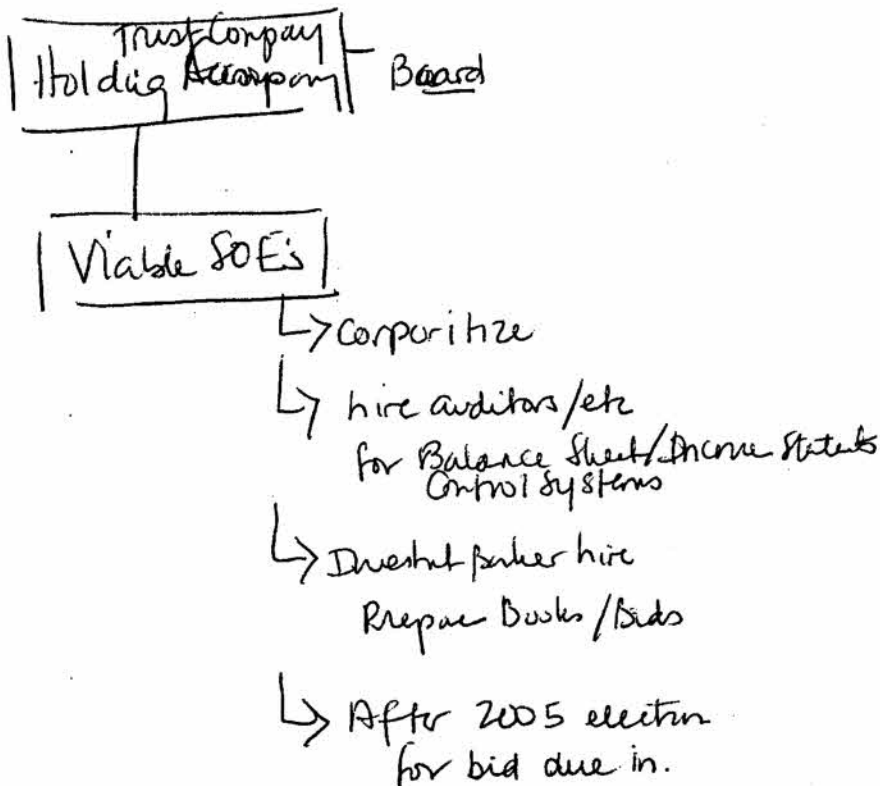
Bio Metrics

- iv. Preferential access to PSD loan and small business incubator programs
- b. Increase real profits at "quick recovery/high likelihood" SOEs
 - i. Provide capital, accounting/audit, consulting and other support for enterprises with a good shot at generating cash
 - 1. We have the funds and resources to do this
 - ii. Create a program that certifies certain SOEs as behaving like economically private companies and exempt them from any PMO or other bid restrictions (see item 3 in prior section)
- 2. Few Sustainable SOEs
 - a. For potentially viable SOEs
 - i. See 1b. above
 - b. For "Agency" SOEs
 - i. Move to their owning Ministries as appropriate
 - c. For SOEs that are likely not viable
 - i. Isolate them in a structure that allows rapid transition for their employees
 - 1. Re-assign the employees of these companies to MOLSA (not discussed with MOLSA) for preferential access to job placement. Compensate MOLSA via the trust/holding company discussed below
 - a. MOLSA would oversee what amounts to protracted unemployment benefits for these people and would actively try to move them off the rolls and into real jobs
 - b. Supplement the benefits with preferential programs and buyouts as in section 1a above
 - c. The benefits should phase out over time
 - ii. Develop disposition plans for the assets, structured in compliance with issues of alienation of government property
- 3. Threat to Private Sector
 - a. Same as under passive approach
- 4. Problems with Strategic Transactions (inexperience, political football)
 - a. Use trust/holding company approach to isolate the non-agency SOEs whether viable or not
 - i. Board of the Trust (or individual company?) would have ultimate responsibility for approving strategic transactions,

once that authority can be granted by the post-election sovereign government

- ii. We could transition the MIM into the trust/holding company, after re-assigning other ministries' SOEs to it
- iii. Combine MIM and Trade?
- b. Establish independent corporate boards for the trust and for the individual companies, even though government ownership continues. Boards might consist of Iraqis and others.
 - i. Supplement the trust and the individual corporations in it with audit, consulting, and strategic transaction services
 - ii. Develop IAS compliant audit systems for the viable companies
 - iii. Prepare books for use in possible JV's and strategic transactions
 1. Solicit bids, due post-election for appropriate strategic transactions
 - iv. In the event that bids are unsatisfactory, explore other ways to transfer ownership via ESOPs, IPOs, distributions to a citizen owned mutual fund, and other mechanisms
- c. Review utility and legality of Joint Ventures and Lease Programs
- d. Keep up the pressure by encouraging true private sector enterprises that compete with SOEs. We can do this through our FDI initiatives, our consulting programs, and our lending and equity programs.

Have Boards =
Law #22
Review to
Simplify -



Fostering a Market Outlook in the State Owned Industries of Iraq

Change

Certainly at the upper managerial levels of the SOI's, there is an entrenched attitude that changing the way the SOI's do business is not just impossible, but undesirable. Given that attitude, which filters down through the entire workforce, it is unlikely that changing these industries from government-owned entities into market oriented enterprises will happen in the near future. As this attitude becomes ingrained in newer managers and workers, it is perpetuated and nearly impossible to eradicate.

An attitude that change is not only necessary, but in this case desirable and advantageous, must be sought out and encouraged at all levels of management. If specific individuals cannot deal effectively in this environment, and refuse to embrace necessary changes, then they must be replaced with some who do. It is the identification of those individuals that welcome needed changes that is most difficult, as once the objective of such a search becomes clear, people tend to say the words one would want to hear, and then fail in the implementation. It does not help that the current crop of managers grew up in a system that encouraged such stratagems not only to remain employed, but in extreme cases, to remain alive.

Market Orientation

The SOI's have, and still do, engage in business relationships with themselves that can only be referred to as incestuous. They tend to only buy and sell from and to each other, to the absolute exclusion of other markets, when possible. These organizations will not deal with outside markets, with certain obvious exceptions, unless forced to in an effort to survive. The management of these organizations has shown the ability and willingness to plumb the extremes of inefficiency rather than do something different, new, or revolutionary. This becomes evident in any relevant discussion with those in charge of the SOI's. Generally, the comments trend to why that can't be done, as opposed to having the vision to see what can be done.

The concept of an SOI actually being profitable gets much lip service, but essentially can best be said to be all swing and no follow-through. Without a sea-change at the managerial levels, it is difficult to see where the work forces will be willing to accept a move in a different direction. This is not to say that profitability could be achieved in a short period of time. Profitability requires an economic base that can sustain it. Since there is no such economy at present in Iraq, it is not reasonable to strive for profit in a day, a month, or possibly even years.

What Action?

In order to move the SOI's from their entrenched attitude, several things must be done.

1. In a relatively rapid way, re-assign or retire those in the managerial ranks who cannot help move their organizations towards a market philosophy. Technically competent people can be utilized through consultancies, if the skill-sets some individuals possess are deemed too valuable to lose.
2. Identify those personnel, and make them managers, who possess both the technical competence and the attitudes required that are lacking in the former managers.
3. School the new managers in the areas that would enable them to effectively manage such changes.
4. Engender in the entire workforce, including management, the attitude that the desired changes are not only beneficial to the SOI, but to themselves as well.
5. To define profitability, costs must be known. Give cost-analysis tools to management, and teach them to use them, simultaneously ensuring that the output of such analysis is understood.
6. Marketing skills, non-existent presently, must be transferred to the new managements.

How?

It is not possible to do the items above in a short period of time. What must be done is to start the process, through contracting initiatives, as soon as possible. There is a wealth of such skill available in the consulting field, both regarding the identification of desirable characteristics and attitudes on the part of the workforce (inclusive of management), and to transfer the knowledge and skill to effectively deal in day-to-day business from a market-based perspective.

This requires acceptance, at some level, by the Ministries, and the Governing Council. The key point is to define the issue in politically acceptable ways, to avoid the same problems described above at even higher governmental levels.

Closing

This is, conceptually, not nearly a complete document. It is, in a sense, the germination of a plan for a project to free the Government of Iraq from the burden of a series of inefficient, and thus costly, enterprises that serve no purpose in an open market other than to stifle that market.

(b)(6)

FYI
5107

To: (b)(6)
RE: SOE'S meeting on 4-10

Please see the attached memo's from OGC. Some of the legal opinions seem inconsistent with the options presented in your outline on SOE'S. I assume you have given a copy of your outline to OGC for prior review. In reading the OGC legal opinions I did not realize that we could exclude any SOE from the bidding process or that we could put additional requirements on the reply's that they would make to any tender or RFP.

(b)(6)

(b)(6)

From: (b)(6)
Sent: Wednesday, March 10, 2004 8:19 PM
To: (b)(6)
Cc:
Subject: Iraq JV Legal Regime

Dear (b)(6)

This follows up on our earlier confirmation that there is no legal prohibition to contracting with Iraqi State-Owned Enterprises ("SOEs") for purposes of the US Supplemental Appropriations assistance to Iraq.

Concerning your question on the legality under Iraqi law of an Iraqi SOE to joint venture with a non-Iraqi company, kindly note we previously had occasion of researching this matter and concluded that such an arrangement is permissible under Iraqi Law. More specifically:

Article 15 (3) of Law No. 22 of 1997 on State Companies provides expressly that: "The company has the right to participate with Arab or foreign companies and establishments in joint ventures that are relevant to the company's aims inside Iraq".

Moreover, Article 10 (e) of Law No. 66 of 1987 establishing certain construction sector SOEs (Mansour, Rashid, Mutazim, Tareq, etc.) provides that, subject to their boards of directors, such SOEs have the right of: "Participation in Iraqi, Arab or foreign companies and enterprises, and the joint venture with them to implement activities related to the company's objectives."

Hopefully the foregoing is fully responsive to your query.

Do not hesitate to advise if you require any additional information on this particular matter.

(b)(6)

Legal Advisor
 Office of the General Counsel
 Coalition Provisional Authority
 Baghdad, Iraq

(b)(6)

-----Original Message-----

From: (b)(6)
Sent: Tuesday, March 09, 2004 9:25 AM
To: (b)(6)
Cc:
Subject:

Dear (b)(6)

We reviewed the correspondence stating the PMO has excluded Iraqi state-owned enterprises from its published list of potential subcontractors for use by successful prime contractors in executing projects funded by the U.S. supplemental appropriation. In that regard, kindly note that a recent opinion (copy attached) from the senior attorney for contracting matters in the CPA Office of General Counsel clearly states:

3/10/2004

"There is no legal prohibition to contracting with Iraqi State-Owned Enterprises, although a waiver would be required for those contracts awarded through USAID procedures."

Therefore, as a legal matter Iraqi SOEs are not prohibited from bidding as subcontractors on US projects funded by the U.S. supplemental appropriation.

Moreover, as a policy matter, an exclusion thereof would run counter to any policy for promoting Iraqi business enterprise, and otherwise would have adverse socio-economic consequences on a national scale.

Kindly do not hesitate to indicate if you require additional clarifications on this matter.

(b)(6)

Office of the General Counsel
Coalition Provisional Authority
Baghdad, Iraq

(b)(6)

3/10/2004



COALITION PROVISIONAL AUTHORITY
BAGHDAD

INFO MEMO

23 March 2004

FOR: Senior Advisor, Ministry of Housing and Construction
FROM: (b)(6) Office of the General Counsel
SUBJECT: Treatment of Joint Ventures with State-Owned Enterprises under Iraqi Law

This memorandum was prepared after consulting with Iraqi lawyers knowledgeable in Iraqi commercial law and after reviewing provisions of Iraqi law with these attorneys, using both English and Arabic versions of the statutes, although the author of this memorandum is not qualified as an Iraqi lawyer. The information contained herein is presented as an overview of certain aspects of Iraqi law and should not be taken as a definitive statement as to how an Iraqi court would decide a given matter.

Rules for joint ventures with Iraqi state-owned enterprises are principally contained in two statutes, State Company Law No. 22 of 1997 (the "State Company Law") and the Civil Code of 1990 (the "Civil Code"). Rules for joint ventures also existed under the now repealed Law No.31 of 1957.

The State Company Law provides in Article 15 that a state-owned enterprise ("SOE") may invest its surplus funds in joint ventures with other partner companies, provided the ventures are relevant to the company's aims inside Iraq. Cabinet approval is required for joint ventures outside Iraq but does not appear to be required by statute for joint ventures within Iraq. Furthermore, the State Company Law explicitly states, in Article 15 that SOEs have "the right to

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participate with Arab or foreign companies and establishments in joint ventures that are relevant to the company's aims inside Iraq." Article 15, Second, provides that if cabinet approval is obtained, "funds from partner Arab and foreign companies or establishments [may] be used in joint ventures that are relevant to the company's aims outside Iraq." Article 18 of the State Company Law provides that cabinet approval must be obtained for loans obtained outside Iraq in order to finance the company's investment or current activity.

The State Company Law does not restrict joint ventures to a specific project, although we understand that it was common practice under the former regime to limit joint ventures with SOEs to specific projects. Our review of the law indicates that it is not prohibited, by either the State Company Law or the Civil Code, for a joint venture to enter into multiple contracts.

However, the subject matter of a joint venture contract must be adequately described, in accordance with rules set forth in the Civil Code (*See* sections 126, 128, and 129 of the Civil Code). We understand that joint venture contracts are considered "innominated contracts" for purposes of the Civil Code, and are therefore not subject to the specific rules that apply to certain "nominated contracts" such as providing a specific time limit for joint venture contracts or enumerating the projects that are the subject of the joint venture contract. We further understand, however, that certain general rules of the Civil Code will apply to joint venture contracts. In particular, Articles 126 through 132 of the Civil Code provide guidance on the "object and cause" of contracts. These provisions provide that the object of a contract may include objects of material value, debts, benefits, work to be done, or abstention from work. Article 129 provides that the object of a contract may be non-existent at the time of contracting if it is obtainable in the future and has been described in a manner that negates "excessive ignorance and fraud."

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The Coalition Provisional Authority (the "CPA"), previously determined that SOEs may compete for contracts, and in CPA Memorandum No. 4, the CPA provided additional rules to ensure open competition and transparency in contracting and grants. While joint ventures do not appear to fall within the express terms of CPA Memorandum No. 4, the principles of open competition and transparency should be applied in selecting joint venture partners and entering into joint venture contracts. The Iraqi ministries are free to conduct such competitions, and to negotiate, at arm's length and in good faith, such contracts. However, to ensure that joint ventures are in accordance with CPA obligations under international law, and to further ensure transparency, no joint venture contract may be entered into unless the Administrator or his delegate finally approves to the joint venture.

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(b)(6)

From: (b)(6)
Sent: Thursday, April 08, 2004 1:25 PM
To: (b)(6) CIV: Luft, Rolf D. (SES-2); Wayne, Victoria (SES-5); (b)(6)
 (b)(6) Thames, Gerard (SES); Theriot, Edwin A. (SES-2); Stinson, Michael (SES); Wethington, Olin (SES-6)
Cc: (b)(6)

Subject: Meeting of the Executive Board Econ Policy Group and guests on SOEs Friday, 10 April at 5pm

Ambassador Jones has asked to convene a meeting to discuss state-owned enterprises. The meeting will be at 5pm on Saturday, 10 April, in the Ambassador's Conference Room. The Senior Advisors of Ministries which have SOEs are invited to attend.

In early winter last year a privatization plan was proposed to the GC and was summarily rejected. A severance plan also faltered. Since approximately January, there have been no hard decisions about SOEs.

On funding, the original proposal was \$500M for SOE salaries and \$500M for "capital expenditures". The original four-tier salary structure would use less than the \$500M set aside, however, if the eleven-tier salary structure is used, then the estimates are approximately \$680M. Also, the \$500M cap-ex monies were reduced. Thus there is approximately \$780M available for both salaries and other expenditures.

Attached please find documents concerning some of the history of this issue. Thank you.

(b)(6)

Deputy Executive Secretary
 Executive Secretariat

(b)(6)

4/9/2004

Overview of the Ministry of Industry and Minerals

Information Provided by (b)(6), Coalition Senior Advisor

July 11, 2003

- I. Functions of the Ministry - The Ministry of Industry and Minerals (MOIM) is the leading public sector industrial entity in Iraq. In this ministry, there are forty eight state owned enterprises, a.k.a. SOEs, plus an additional five companies which were transferred from the former Iraqi Department of Defense, Military Industrial Companies in July 2003.

The total number of SOEs combined in eleven ministries (Agriculture 10; Electricity 11; Finance 9; Health 1; Housing and Construction 15; Industry and Minerals 48+5, Irrigation 11; Defense MICs 43, Oil 19, Trade 8, Transport & Communications 12) is one hundred ninety two - fifty three fall under the supervision of the MOIM. These SOEs employ over 100,000 Iraqi men and women. The main industrial sectors covered include such strategic products as sulphur, fertilizers, cement, chemicals (petro- and agricultural), engineering, geological and systems integration services. These companies in particular feed key sectors of the Iraqi economy such as the petroleum and electricity sectors. In addition, these companies have the potential, given adequate fuel, electricity, raw materials, and security, to contribute significantly to the rebuilding of Iraq's infrastructure, agricultural base, employment, and ultimately greater security and economic stability.

Other sectors covered include pharmaceuticals, electrical components, building and construction materials, furniture, batteries, automotive vehicles, food and dairy, textiles, glass and ceramic, leather, paper, vegetable oils, tires, and services (complete list attached). These companies are socially significant because they provide incomes and job opportunities to mid and lower

income Iraqi families through the production of downstream products and services.

In the past thirteen years, companies suffered from strict UN Sanctions which prohibited importing essential machinery and replacement parts, centralized schemes that determined artificially low prices for finished goods, extensive subsidization and corruption, lack of capital investment, limited raw materials, and lack of training in modern accounting and management practices. Most companies suffer from bloated employment. In addition, many companies suffered from war damage and looting. SOEs will have to overcome these challenges while they adjust to rigorous competition in the newly opened and free enterprise economy.

II. Operational Status of the Ministry (buildings, personnel (state of de-ba'athification efforts, numbers working), security concerns, etc)

The Ministry employs eight hundred sixty professionals that fall into the following departments: Ministry Office and Secretary, Consultants, Deputy, Investment Section (65 employees), Legal Section (19 employees), Administration Section (194 employees), Technical Section (68 employees), Planning Section (95 employees), Economic Section (67 employees), Auditing Section (36 employees), Special Project Section (12 employees), Information and Scientific Knowledge (28 employees), Q.A. and Engineering Inspection (36 employees). Restructuring the ministry is an operational priority.

The original ministry building was badly burned and looted. We have had the building inspected and have certification that the building structure is safe if we want to refurbish it. Preliminary estimates for refurbishing the building are \$4.9 million U.S. It is our understanding that the building was previously shared with the Electricity Commission, and that the Commission is planning to begin refurbishing their half of the building. We will be discussing shared costs.

In the interim, the MOIM will be setting up headquarters in the Directorate for Industrial Promotion in Karada. The building obtained funding to refurbish the offices modestly; it should be ready the week of July 13.

The ministry has been working out of the State Company for Leather in Karada.

Staffing the new ministry will be a challenge. The De Ba'ath order has dismissed key figures in the organization, and others are waiting for pending exemptions. There are a significant number of redundant positions which will likely not be filled, and the entire ministry structure needs to be reviewed and made leaner and more efficient.

The De Ba'ath order has also been carried out throughout the system of 48 state owned enterprises within this ministry. Seventeen companies have now elected new boards of directors (8 per company) and have identified one candidate per company for the Chairman position. The candidates will be reviewed jointly by the Ministry's Interim Supervisor, Section Directors Manager, and CPA Advisors.

The current Salaries scale is a constant source of complaints. As a result of the old regime's policy on remunerating MICs and high level Ba'athies on a preferential basis, many engineers and high skilled experts within the companies were earning very low salaries. The Ministry of Finance tried to fix the problem and developed a four scale payments system. This system needs further adjustments in order to properly compensate employees based on their level of skill and experience.

Additionally, the Ministry is receiving many complaints about the exchange rate used in determining the dollar-based salary payments. Single dollars receive 40 cents on the dollar and therefore should not be used for paying salaries.

The method used in disbursing salary payments is a major security concern. Large amounts of money ranging in the millions of dollars (usually 2 or 3) are transported from a bank in Baghdad to the

temporary ministry offices. From there, DGs pick up the salaries for their employees, which range in the thousands of dollars. The money is taken out sometimes in plastic bags. No security is provided by the ministry although some DGs hire armed guards. Already one company's salaries worth \$209 thousand dollars were stolen from the safe that was heavily guarded in a company office in Baghdad.

Security remains the number one operational concern, and is rivaled only by lack of liquidity, electricity, fuel and raw materials.

III. Policy Priorities of the Ministry

Policy priorities for the Ministry include: De Ba'athification, Budget and Fiscal - Liquidity Policies to enable SOEs to resume operation, Policy on Restructuring and Privatizing/Corporatization of SOEs, Policy on Investment, Policy on Fair Competition in the National Economy, and Policy on Setting up a Social Safety Net.

IV. Strategic Plan (30, 60, or 90 day plans)

30 day timeframe

- Reestablish the Ministry of Industry and Minerals Headquarters Staff with a solid management team.
- Assist in setting up the Ministry in a temporary satellite building.
- Assist in procuring basic office supplies and equipment for the ministry.
- Perform due diligence on State Owned Enterprises to assess the net worth and capability of companies to contribute effectively to the Iraqi economy.
- Complete Company profiles from co. questionnaires.
- Determine strengths, weaknesses, and opportunities created by the opening of the economy.
- Engage appropriate expertise to enhance the efforts of OCPA advisory team, and propose an action plan for collaborative effort in assessing SOE viability to function effectively in an open economy.
- Qualify interested Iraqi and international investors business ventures or potential alliances.

- Complete budget process and Assess the availability of capital
- Get all viable companies in operation (top 20).
(Greatest limitation will be delivery of electricity and financing).
- Complete 2/2ACR withdrawal from the State Owned Cigarette and Tobacco Company.
- Coordinate security force (the US trained private security guard forces) for SOE.
- Complete assessment of MOU(OFF) contracts, and identify gaps in pending SOE orders for possible procurement through open tendering.
- Assess location and value of MIM assets and bank accounts in foreign banks.
- Assess the plans of the Supreme Board of Auditors to review SOE operations and financials.

60 Days

- Focus on 2004 ministry and soe budget
- Address accountability of salaries and budget issues
- Review status of pending priority policy issues a develop plan to resolve or make progress
- Determine areas not currently addressed by served by on-going work and establish resources that can be used to resolve these

90 days

- Focus on De Ba'athification
- Budget and Fiscal Policies to enable SOEs to resume operation
- Policy on Restructuring
- Privatizing/Corporatization of SOEs
- Policy on Investment
- Policy on Fair Competition in the National Economy
- Policy on Setting up a Social Safety Net

V. Status of Ministry Activities in the Governorates (to best extent possible)

State Owned Enterprises are scattered throughout Iraq. Although they received general operational guidance from the Ministry, the effort of the CPA and the interim ministry officials has focused on

decentralizing operations. To this extent, each SOE will receive limited operational funds disbursed by the Central Bank. CPA advisors will work with interim Ministry officials to establish the level of funding for each enterprise.

CPA will continue to pay salaries of SOEs in the MOIM until December. The policy for 2004 will be reviewed during the budget process for all government entities.

Ministry is working on a comprehensive due diligence exercise to gather data that will assist in determining the viability of each company. Site visits, interviews, and analysis is currently underway, and the approach in this ministry is being replicated in other ministries that have SOEs.

We are also conducting workshops and detailed presentations with Ministry of Finance CPA advisors, World Bank, IFC, UN, and other leading organizations to assist in assessing the viability of MOIM SOEs.

VI. Contact Information for Senior Advisor and Key

(b)(6)



CPA South
Industrial Development

From: (b)(6) (Trade & Industry) Dep. – (Industrial Development) Sect.

Date: 07.12.2003

Subject: General report related to the status and actions to boost the production in the basic industry strategic plants in the south of IRAQ

Introduction:

This document is issued to give guidance to the various CPA pillars and private entities in view of a coordinated action to boost the production of the basic industry in the south.

Due to the timing extremely compressed, the end of June 2004, and the uncertain strategies of the Iraqi Ministries after the end over of responsibility and governance by CPA, this document is considering only the possible, effective actions to be undertaken in the next seven months.

This actions should be limited merely at the support to identify the bottle necks in the production process of the plants and to launch projects, like supply of equipment and spare parts to eliminate the constrain.

During our surveys started at the beginning of November, two mayor problems was focused as the principal cause of plants reduced or non operation. These problems are the lack of steady stable and constant electrical supply as well as for gas.

These two points are the most critical ones because they are involving the work and strategy of different players, TF RIO for oil & gas, TF RIE, Bechtel, Mott Mc Donald for electricity, therefore the direction and time schedule for each program related to these fields might effect the production of the considered plants.

(b)(6)

Status of each plant and actions to be undertaken.

Integrated steel plant. See attach. (1

The plant is an integrated steel complex located in Kor Az Zubayr designed to produce 400,000 Tons/year of carbon steel in form of long products, rounds and sections. It was designed, installed and commissioned by the French group CRUSOT LOIRE in the 1974.

The plant has 4,845 employees and was producing before the war 60,000 Tons/year of steel for military purpose, the maximum production was 200,000 Tons/year.

Status

The plant is completely looted, is in bad condition for what is concerning the electrical and instrumentation part that has to be redesign and reinstall completely, moreover some processes are old and not any more profitable, for example the direct reduction plant and the melt shop, those parts of the plant have to be extensively modified from a mechanical and process point of view, however the rolling area is still in a good shape and with the installation of new electrical equipment and automation can produce rounds and profiles with acceptable quality standards, necessary condition for the working of the rolling mill is the rehabilitation of the water treatment plant, compressed air plant, and distribution substation.

Actions

The above mentioned works cannot be undertaken under the frame of a local contingency plan, the involvement of a specialized company is necessary to investigate in detail the process and undertake the necessary extensive works for the rehabilitation of the plant in accordance to the actual quality standards, reliability and efficiency.

Splitting of the plant in several process area can be taken in consideration due to the different damages suffered by the equipment, however the auxiliary services have to be rehabilitated almost completely whatever part of the process they have to supply.

In conclusion this installation need extensive investments and the involvement of big multinational companies specialized in the steel plants sector, nothing can be done with contingency plans in within the next seven months, the destiny of the complex will be a decision of the new Iraqi government.

(b)(6)

CPA South
Industrial Development

Spiral welded tubes plant

It is a separated unit of the integrated steel plant, this production unit is situated near Um Kuasr port and will be visited by our team this week.

Al Muthanna Cement Factory attach. (2

The plant located near As Samawa city, Grid. NV 004 545, has two lines for dry type cement production process, designed to produce 2,000,000 Tons/year of Portland cement, high tension cement and sulfate resistant cement.

It was designed, installed and commissioned by the German company KHD in within the 1982 -1984.

The plant has 850 employees and now is producing 1800 tons/day of cement equal to 360,000 tons/year of cement considering an availability of electrical energy of 200 days/year.

Status

The plant is adopting a good and rather modern technology, it is in a good shape compared to other installations in the country and with some little rehabilitations and parts replacement will be able to produce 1,000,000 tons per year with one production line in full operation. The production of cement is very precious for the reconstruction of the country, at the contrary of the steel melt shop were little is left for the contingency plan, is possible for this factory to apply some corrective action to boost the production at the level mentioned.

Actions

To reach 1,000,000 tons per year of Portland cement the following action has to be undertaken:

The plant need stable and reliable supply of electrical energy. The energy required is 15 Mw more in addition to the already available power, this can be done **easily trough the Kadisia substation, rising the power supply setting from 10Mw to 25Mw, proper coordination with Baghdad is needed to allow the IEC, Iraqi Electricity Committee to dispatch the necessary orders.**

A project of 4.5 Mio of US\$ has been approved by CPA south for the supply of the necessary excavating equipment for the quarry. The project need to be push forward in Baghdad as a matter of priority.

During our team last visit a detailed **list of spare parts** as been requested to the management, this list is not yet produced to the CPA South, **further actions and pressures has to be applied trough the project officer, Cap. Serge Doreleyers RNLMC to receive this list and approve a project for the purchase.**

(b)(6)

CPA South
Industrial Development

Petrochemical plant

The plant, located near Kor Az Zubayr city, grid QU 61 58, was designed, installed and commissioned by a JV between the American LUMMS and the German Thyssen in the 1979, but due to the Iran – Iraq war was started up only in the 1988.

The plant has five different processing lines for the following products:

- Low density polyethylene
- High density polyethylene
- Ethylene
- Plastic sheets for crops covering
- Chlorine
- Soda
- P.V.C.
- Hydrolytic acid HCL

The number of the personnel is 3379.

The plant is in relative good shape, it was interested by a extensive extraordinary maintenance program during the year 1992, he reached the maximum production in the 2001, about 45% of the designed production, just before the last war the water cooling pipes was renovated and substituted.

Status

The plant is ready to restart the production of plastic sheets, chlorine, low and high density polyethylene.

Actions

Two are the key factors to restart the production:

1. 30 Mw of steady, stable and uninterruptible power supply.

This can be obtained with the refurbishment of the gas turbines power plant embedded in the petrochemical complex.

This job has been identified and advised by Bechtel to CPA Baghdad for the contract award, our team is contact with CPA Baghdad to try to expedite the order award and the beginning of the works.

2. 120 million cubic feet of gas per day to produce five tons of chlorine per day and four hundred tons of high and low density polyethylene per month.

The Gas liquefaction plant is located in GRID QU 631 531, three kilometers south of the petrochemical plant.

Our team spoke with IFEST and CPA Baghdad to coordinate with TF RIO to restart the gas supply.

(b)(6)

CPA South
Industrial Development

Paper Factory Missan

The plant, located 20 km south of Al Amarah, grid QA 09 02, was installed and commissioned in the 1979 by the German company WOITH SULZER, the equipment was of first quality, boilers from LURGI, controls and steam turbine from SIEMENS, instrumentation from ICAR.

The plant can produce pulp from recycled paper and from imported pulp, the percentage of new or recycled material depend by the type and quality of final product.

There are two paper mill, one to produce bags for packing cement and the other to produce cartoon sheets for packaging boxes, the rated production is 350 tons a day.

The plant employ 940 workers, 25 engineers, and 100 security guards.

Status

The paper mills and the pulp plant are in good condition and the management has in mind to restart the production of cartoon sheets for packaging boxes, the production rate calculated will be 25 tons per day, that means 7% of the rated production. The production capacity will be so low at the beginning due to serious problems at the water treatment plant and in the pulp plant, some filters has to be substituted and the original vertical motors have to be reinstalled to give at the plant the original performance.

The plant is equipped with a steam gas turbine of 10Mw complete with a steam recycling system, but the heat exchangers they are not any more working due to the corrosion caused by the bed filtering of contaminated water from the pulp plant.

However the turbine should be putted operational using the existing boilers without recirculation.

Actions

Investigate and gets more details on the **two lists of spare parts and consumables** supplied by the management, the two documents are listing the equipment needed to restart the production of the plant as indicated above and to restart the steam turbine operation with a great advantage for the grid and Missan population.

Another survey will be paid by our team together with the Utilities team and Bechtel. The final lists of spares will be processed by CPA South for approval.

(b)(6)

CPA South
Industrial Development

Cement Factory Um Kuasr

To be visited before Christmas

Fertilizer plant

The plant was designed, installed and commissioned by Mitsubishi Heavy Industries in the 1979, is composed by two parallel lines for the production of 500,000 tons per year of ammonia and urea for each line.

The services, water treatment plant and cooling towers are very old design and unable to reach the water quality and purity required, the open system technology is consuming a big quantity of chemicals, and the quality of them is poor, this is effecting the production in terms of wearing of the equipment and quality.

Status

the plant was not looted and can restart the production. The equipment is generally heavily worn and far out of the minimum safety margins, the maintenance and management is poor and need to be updated with modern and effective procedures.

The plant is a continuous process and need a preparation time to carry the equipment at the rated values to start the chemical processes, this require a process starting up of 20 days minimum, it is enough to loose the power supply for more than three seconds to shut down completely the plant and restart from the beginning the procedure. In these last three months the technical teams failed three times to start up the process due to electricity black out from the grid.

There are two incoming lines in the main substation, one is coming from Kor Az Zubayr PP substation in operation and the other from Umm Quasr substation down.

50 Mio feet³/day of natural gas is needed to withstand the production rate, the gas should be available from the South Oil Distribution Company, gas receiving and reducing station is ready to operate.

Actions

Verify the possibility to place a **15 Mw mobile generating set** to start and maintain the production. TF RIE, Bechtel and Mott Mc Donald to be involved.

A request for detail the **spare parts and the chemicals** has been made to the management to assist the production till the end June.

Actions with **Mitsubishi will be undertaken to try to recover some important and quite expensive equipment** stored in Japan for maintenance.

(b)(6)

CPA South
Industrial Development

Paper mill Bashra

To be visited before Christmas

IB Magit engineering and steel structure fabrication company

Engineering company serving all the South part of Iraq before the war, capable to design and manufacture full customized fabricated steel equipment like filter, heat exchangers, vessels, tanks, bridges, piping, stacks, little ships.

It is composed by 100 engineers, of which 16 are design engineers plus the workers for assembling and manufacturing.

The company was reporting to the Army and was led by a General Officer.

The company is composed by several assembling sheds equipped with overhead cranes.

Status

The company was completely looted after the war and little is left in term of equipment in the assembling facilities.

Also the offices was looted, and all the software and the documentation, drawings, calculations, manuals were lost.

Actions

Put them again in operation supplying the necessary material to **restart the assembling in one of the sheds** and use them as advisors for assessing and analyzing some part of the plants we are inspecting.

Right now a data sheet for motors identification has been delivered to them to identify more precisely their needs in terms of equipment to be supplied and **their capacity to understand the modern technical standards.**

(b)(6)

Summary of State-Owned Enterprises

Company	Good or Service	Ministry	'03 CPA Subsidy (\$MM)	Employees	Est. Asset Value (\$MM)	'04 Est. Revenue (\$MM)	Salary Expense (\$MM)	Operating & Other Expenses (\$MM)	CapEx to Restart Operations (\$MM)	'04 Est. Surplus (Shortfall) (\$MM)	Political Factors	Current Operating Rate	Industry Viability (H/M/L)	Obstacles to Full Operations	Comments
CATEGORY: Good															
1 Airways	Commercial airline	Trans.		2,329		101.100	4.000	87.000	2.000	10.000	High		Low		
2 Land Transport	Trucking	Trans.		1,596		4.000	0.450	2.210	1.367	0.940					
3 Aldila	Passenger transport	Trans.		785		2.000	0.754	0.852	0.000	0.095					
4 Passenger	Long distance & inner-city trans.	Trans.		3,433		5.670	3.335	1.727	0.667	0.073	Low		Low		
5 Delegetes	Limousine service	Trans.		206		0.684	0.245	0.266	0.006	0.187					
6 Internet	Internet	Trans.		412		3.335	0.420	0.525	0.335	2.255	Low		Low		
7 Railway	Rail travel	Trans.		12,290		5.970	13.350	5.028	0.240	(12.837)					
8 National Center for Labs	Building & soil exams	Housing		1,449	0.112	4.349	1.755	2.593	4.750	(4.749)	High	10%	High	L	
9 National Center for Consultancy	Engineering designs and services	Housing		395	0.042	1.000	0.610	0.251	4.220	(4.081)	Low	35%	Low	L	
10 Al-Farouq State Construction Co.	Construction, bldg., water	Housing		1,433	2.031	9.467	2.000	7.450	4.200	(4.183)	High	50%	High	L	
11 Al-Mansour State Construction Co.	Construction works, bldgs.	Housing		1,527	5.170	10.833	2.800	8.027	0.041	(0.035)	High	50%	High	L	
12 Al-Rasheed State Construction Co.	Construction works, bldgs.	Housing		1,186	1.937	9.064	2.642	6.417	0.035	1.907	High	40%	High	L	
13 Hamurabi State Construction Co.	Road/bridge Construction	Housing		2,351	0.715	24.596	5.220	21.100	0.008	0.709	Low	40%	High		
14 Ashur SCC	Road/bridge Construction	Housing		2,214	0.533	14.000	6.100	9.900	0.008	0.546	Low		High		
15 Al-Fao SCC	Commercial Construction	Housing		3,629	0.000	37.180	6.434	32.870	0.008	(2.124)	Low		High		
16 Saad SCC	Commercial Construction	Housing		1,219	0.000	2.360	2.848	0.422	0.000	(0.910)	Low		High		
17 Al Mutasim	Road/bridge Construction	Housing		1,439	0.944	8.12	2.345	6.558	0.072	0.876	Low	40%	High		
18 Mishraq Sulphur	Sulphur Mining	IndMin	\$0.500	1,278		30	0.000	1.200	22.000	6.560	Low	0%	High	S, L, P	
19 Training & Rehab.	Service provider: Training	IndMin	\$0.450	895		0.5	1.020	0.310	0.170	(1.000)					
20 Information Systems	IT Systems provider	IndMin	\$0.250	165											
21 Indus. Design & Constr.	Industrial Contracting	IndMin	\$1.000	581											
22 Construction Industries	bricks, pvc pipes	IndMin	\$0.500	3,201											
23 General Systems	Electronic Control Systems	IndMin	\$0.445	438	0.00	7.00	0.499	3.755	1.500	1.246	Low	80%	High		
24 Hand Woven Carpets	Persian Carpets	IndMin	\$0.100	905		1.800	1.032	0.754	0.000	0.014					
25 Al Furai Chemical	Chlorine & other chemicals	IndMin	\$1.500	1,730		3.000	1.972	1.740	3.000	(3.712)					
26 Petrochemical	Fertilizer	IndMin	\$3.000	3,872		10.000	4.414	3.375	2.200	0.010	High				
27 Phosphate	Phosphate	IndMin	\$5.000	3,212		7.500	3.662	5.425	2.400	(3.987)					
28 Northern Fertilizer	Urea	IndMin	\$1.000	1,936		10.000	1.803	3.850	2.000	2.347					
29 Southern Fertilizer	Urea	IndMin	\$1.500	2,340		12.000	3.071	4.750	3.000	1.179					
30 Northern Cement	Cement	IndMin	\$2.000	2,293		37.800	2.622	20.282	14.000	0.896	High				
31 Iraqi Cement	Cement	IndMin	\$3.000	3,310		25.200	3.762	14.388	7.000	0.050	High				
32 Southern Cement	Cement	IndMin	\$2.600	5,200		50.400	5.928	26.376	15.000	3.096	High				
33 Al Faris	Steel fab & press. vessels	IndMin	\$1.725	1,334											
34 Ur Engineering	Aluminum Cables	IndMin	\$2.700	3,352	20.000										
35 Sammara	Drugs & Medical Supplies	IndMin	\$1.500	2,603		3.000	2.900	0.300	1.000	(1.264)			M		
36 Ninawa	Drugs & Medical Supplies	IndMin	\$1.200	947		1.000	1.083	0.300	1.000	(1.383)			M		
37 Tobacco & Cigarettes	Tobacco & Cigarettes	IndMin	\$2.500	2,246		11.750	2.560	9.981	1.000	(1.792)	High		M	2ACR B	
38 Iron & Steel	Steel fabrication (pipes)	IndMin	\$0.500	3,158		50.000		0.500	20.000	29.500			M		Early privatization
39 Tires Industries - Najaf	Vehicle Tires (car)	IndMin	\$0.500	2,357		6.000	2.736	3.800	1.500	(2.036)	High		M	P	
40 Ag Supplies	Ag supplies distributor	Agricult.		1,358		193.700	2.770	186.600	0.000	7.200	High	80%	High		
41 Veterinary	Vet supplies	Agricult.		2,434		27.879	4.500	55.745	0.443	(27.400)	High	50%	Low		
42 Mesopotamia Seed	Process crop seeds	Agricult.		747		18.260	1.022	19.590	0.890	(0.433)	High	30%	High		
43 Shopping Center	Retail	Trade	\$7.000	5,880		56.700	11.300	42.861	2.500	0.039	Low		Low		Keep control of land
44 Construction Materials	Retail Construction Mat.	Trade	\$3.305	3,385					1.100		Low		Low		Only local interest
45 Vehicle Sales	Auto/ Truck Dist.	Trade	\$1.640	2,806		14.700	2.500	6.700	2.700	2.800	Low		Low		

Summary of State-Owned Enterprises

			'03		Est.		Operating &	CapEx	'04 Est.						
Company	Good or Service	Ministry	CPA Subsidy (\$MM)	Employees	Asset Value (\$MM)	'04 Est. Revenue (\$MM)	Salary Expense (\$MM)	Other Expenses (\$MM)	to Restart Operations (\$MM)	Surplus (Shortfall) (\$MM)	Political Factors	Current Operating Rate	Industry Viability (H/M/L)	Obstacles to Full Operations	Comments
46	Al-Noaman	Plastic injection, irrigation		640			1.080		0.067		Low	80%	High	C	
47	Al-Mansour	Solar cells, IC, gases		676			0.832		0.000		Low		High	C, D	
48	Al-Ikhaz (TBD) (Falluja)	Heavy machining, lenses		2,282			2.738		0.496		High		M	D, A	
49	Salahadeen (TBD) (Tikrit)	Communications, radar		2,850			3.333		0.333		High		High	D	
50	Sanareeb (TBD)	Irrigation systems		654			0.800		0.533		Low	50%	High	C, D	
51	Ibn-Majid (TBD) (Basra)	Eng. Mfg, marine et al.		1,500			1.000		1.250		High	0	High	D	
52	Glass & Ceramics	Plate glass and ceramic tiles	IndMin	\$1.150	2366										
53	Vegetable Oils Industry	laundry, soap, oil, etc.	IndMin	\$2.000	3750										
54	Al Sawari	Resins, inks, fiberglass	IndMin	\$0.150	961										
Sum				117,335											

CATEGORY: LOSER

55	Al Qadesia Electrical	Manuf. Pwr transformers	IndMin	\$2.600	2,261		2.578	7.500	0.000	(4.078)					
56	Indus. Design & Consult.	Architectural-Engineering	IndMin	\$0.250	810	1,500	0.923	0.555		0.022					Likely to survive
57	Nasser SC for Mechanical Indus.	Manuf. industrial machy	IndMin	\$3.000	2,483										Sell early to locals
58	Al-Majid	Water purification	MinIndus		547		0.435		1.500		Low	0	Low	C	
59	Al-Battany	R&D, space tech	MinIndus		269		0.430		0.750		Low	50%	Low		
60	Al-Kindi	R&D, radar	MinIndus		970		1.667				Low	0	Low	A	
61	Al-Fath	R&D, missiles, explosives	MinIndus		186		0.400		0.233		Low	0	Low	A	
62	28 April Research	R&D, electronic warfare	MinIndus		99		0.153				Low	0	Low		
63	Al-Rafah	Consulting, alloy, ceramic	MinIndus		370		0.400		0.500		Low	0	Low		
64	Al-Khawarezmi	Software	MinIndus		280		0.467		0.262		Low	0	Low	D	
65	Al-Qudis	R&D, engineering, rockets	MinIndus		716		1.000		10.000		Low	0	Low		
66	Ibn-Rushd	Qual mgmt, testing, inspec	MinIndus		451		0.898		0.755		Low	0	High	C, D	
67	Al-Zahaf Al-Kabeer	Concrete additives	MinIndus		568		1.240		0.500		Low	0	Low	D	
68	Ibn-Al-Waleed	Training, certification	MinIndus		785		2.617		0.650		Low	0	Low	D	
69	Al-Yarmouk	Ammunition, barbed wire	MinIndus		2709		4.497		10.000		Low	0	Low		
70	Ibn-Fimas	R&D, marine mines, drone	MinIndus		805		0.483		0.200		Low	0	Low		
71	Tariq (Falluja)	Pesticides, chemicals	MinIndus		871		1.767		5.233		High	0	Low	C	
72	Al-Melad	R&D, electronics	MinIndus		790		1.526		0.900		Low	0	Low		
73	Al-Nidaa	Dies, molds, gears	MinIndus		1307		1.568		12.000		Low	0	Low		
74	Al-Qaqa	Explosives, powder, TNT	MinIndus		5400		5.533				High	0	Low	A	
75	Nissan	Fuses, military shells	MinIndus		1860		2.000				Low	0	Low	A	
76	Huteem	Ammunition, guns, mortar	MinIndus		5443		5.600				High	0	Low	A	
77	Al-Harith	R&D, air defense, repair	MinIndus		1382		3.500		10.000		Low	0	Low	A	
78	Jaber Ben Hayan	Rubber, plastics, filters	MinIndus		925		0.880		3.000		Low	0	Low		
79	Tabooq	Powder for cartridges	MinIndus		534		1.333		10.000		Low	0	Low		
80	Bader	Tools & dies	MinIndus		1631		2.267		1.333		Low	0	Low		
81	Al-Hadhar	Chemical products	MinIndus						2.267		Low	0	Low		
82	Ar-Razi	Lasers	MinIndus				0.600		0.600		Low	0	Low		
83	Al Karama	Al Sumoud missiles	MinIndus		1950		2.340		2.340		Low	0	Low		
84	Sakar Al-Arab	R&D, electronic warfare	MinIndus		34		1.667		1.667		Low	0	Low	A	
85	Al-Ezz	Electronic switching	MinIndus		935		1.355		1.355		Low	0	Low		
86	Al-Sumoud (no file)		MinIndus												
87	Woolen Industries SC	Carpets	IndMin	\$2.000	3201										
88	Textile Industries - Hilla	textile and fabrics	IndMin	\$1.000	2712										

Summary of State-Owned Enterprises

			'03 CPA Subsidy (\$MM)	Employees	Est. Asset Value (\$MM)	'04 Est. Revenue (\$MM)	Salary Expense (\$MM)	Operating & Other Expenses (\$MM)	CapEx to Restart Operations (\$MM)	'04 Est. Surplus (Shortfall) (\$MM)	Political Factors	Current Operating Rate	Industry Viability (H/M/L)	Obstacles to Full Operations	Comments
	Company	Good or Service	Ministry												
89	Leather Industries	Shoes, leather goods	IndMin	\$1,000	2822										
90	Battery Industries SC	vehicle batteries	IndMin	\$1,000	1929										
91	Mechanical Industries	farm equipment	IndMin	\$1,200	3872										
92	Cotton Industries SC	spinning and weaving	IndMin	\$1,000	6776										
93	Ready Made Wear Indus.	garments	IndMin	\$1,000	1515										
94	Electrical Industries SC	subfractional motors, A/C	IndMin	\$2,500	3158										
95	Textiles	Textiles	IndMin	\$0.250	3317										
96	Paper Industry	Paper Industry	IndMin	\$0.250	3153										
97	Rubber Industries	tires, truck	IndMin	\$0.500	1201										
98	Sugar Industry	sugar	IndMin	\$0.500	480										Agricultural policy
99	Grain Processing	Flour Production	Trade								High		Low		
100	Furniture Factory	furniture	IndMin	\$0.125	223										
101	Dairy Products SC	dairy	IndMin	\$0.500	1075										Agricultural policy
102	Nissan (17)	signs	IndMin	\$0.100	805										
103	Research & Development	Research & Development	IndMin	\$0.100	1016										
104	Car Manufacturing	bus and truck assembly	IndMin	\$0.225	2167										
105	Animal Resources	Livestock/poultry supplies	Agricult.		492	0.230	1,700	1,787	0.533	(1,021)	Low	50%	Low		Agricultural policy
106	Industrial Crops	Supply & buy local crops	Agricult.		481	1.157	0,719	1,267	0.167	(0,057)	Low	50%	Low		Agricultural policy
107	Horticulture / Forestry	Nursery for crop seedlings	Agricult.		773	0.497	1,099	2,000	0.013	(1,385)	Low	50%	Low		Agricultural policy
				Sum	78,539										

CATEGORY: TBD

108	Refractories	Insulated bricks	IndMin	\$0,200	1000											
109	Water Well Drilling	Water well drilling & install.	Water		1650		2,277		1,298	(3,575)	Low	68%	High	C		
110	Al Kadisiah	Irrigation & drainage networks	Water		621		0,857		0,533	(1,390)	Low	0	High	C		
111	Mech. & Elec. Contr. State Co.		Water								Low					
112	Al Nasser		Water													
113	Al-Hadba'a Co. for Irig. & Maint.	Dev. and main. Of reclam & irig proj.	Water		1280		1,766		0,240	(2,000)	Low	30%	High	O, B, S		
114	Rafidain Dams Construction Co.	Construction of dams	Water		792		1,100			(1,100)	Low		High	O, E		
115	Furat Design	Consul. for irr., drain, dams	Water		334		0,430		0,348	(0,778)	Low	40B, 5M	??	C		
116	Dijala Company	Irrigation study & design	Water		120		0,354		0,333	(0,687)	Low	20%	High	C		
117	Al-Muthana	River dredging	Water		646		0,891		0,243	(1,134)	Low	5%	High	C		
118	Al-Fao	Irrigation & reclamation	Water		862		1,190		2,533	(3,723)	Low	0	High	C		
119	Al-Shaheed	Ammunition raw materials	MillInd		1279		1,866		0,110		High	0	Low	A		
120	Hamoorabi (Babylon)	Pistols, small arms	MillInd		647		0,600		0,100		High	0	High	A		
121	Al-Fida	Hydraulic, pneumatic sys.	MillInd		1285		1,500		0,625		Low	0	High	D		
122	Al-Tahady	Motors, capacitors, transfo.	MillInd		400		0,667				Low	0	High	D		
123	Al-Kadisiya	Guns, grenades, mortars	MillInd		3943		4,267				High	0	Low	A		
124	Al-Uboor	Machining	MillInd		890		1,600				Low	0	High	D		
125	Um-Almarik	Machining	MillInd		1560		1,133				Low		High	D		
126	Al-Rasheed (no file)	CO2 producer	MillInd								High					
127	Al-Radhwam	Machining	MillInd		755		1,000		0,550		Low		High	D		
				Sum	18,064											

CATEGORY: RECLASSIFY

128	ITPC	Postal	Trans		2329	57,350	33,000	8,040	0,670	12,960						
129	Project	Railroad design/construction	Trans		884	7,067	1,000	5,471	0,000	0,583						

Summary of State-Owned Enterprises

			'03 CPA Subsidy (\$MM)		Est. Asset Value (\$MM)	'04 Est. Revenue (\$MM)	Salary Expense (\$MM)	Operating & Other Expenses (\$MM)	CapEx to Restart Operations (\$MM)	'04 Est. Surplus (Shortfall) (\$MM)	Current Political Factors	Industry Operating Rate	Obstacles Viability (H/VML) to Full Operations	Comments
Company	Good or Service	Ministry		Employees										
130 Water Transport	Marine	Trans		1595		4,186	2,400	1,501	0.334	0.264				
131 Private	Buses and taxis: Regulatory Agency	Trans.		1,761		4,000	1,644	0.731	0.600	1.353				
132 Port	Port	Trans		8652		19,320	14,667	1,909	18,990	0.330	High		Low	
133 Industrial Development	economic development agency	Ind/Min	\$0.100	188										
134 Spec. Inst. for Eng. Indus.	Quality Control	Ind/Min	\$0.250	287										
135 Geological Survey & Mining	Survey and Mining	Ind/Min	\$1.500	1205										
136 Grain Board	Imports grain: silos & warehouses	Trade												
137 Food Stuffs	Imports processed food	Trade												
138 International Fairs	Trade Shows	Trade												
139 Export and Import	Import Licensing	Trade												
			Sum	16,901										

TOTAL = 230,839

Legend

O=Oil Materials
 B=Building Materials
 C=Capital for Repairs
 S=Security
 L=Looted
 P=Power
 E=Equipment
 B=Baghdad
 M=Mosul

Due Diligence Update
CPA Ministry of Industry & Minerals
June 27, 2003

The Ministry of Industry & Minerals (MIM) contains 48 State Owned Enterprises (SOEs) with 100,000 employees in various industries, including chemicals, engineering, construction, food, textiles and services. (b)(6) conducted initial due diligence on these SOEs over the last four weeks (started June 1). Following is a brief overview of that work.

What we have done so far:

- Conducted initial 45 minute meetings with each of the 48 Companies to get a high-level understanding of the Companies' products, customers, state of equipment and current needs.
- Collected Company overviews and brochures – generally consisting of little more than production capacity.
- Distributed follow-up questionnaires on financials, competition, customers, suppliers, SWOT analysis, and detailed current equipment, power, raw materials and security needs.
- Created template for collection of Company information. Goal of having a 4 page standardized "tear sheet" on each Company.
- Entered initial Company information into template for all 48 Companies.
- Begun to collect completed questionnaires from Companies.
- Conducted initial assessment of potential viability of each Company (based on extremely limited information) and prioritized Companies for future funding.
- Created budget for 2H 2003 based on initial assessment. Ministry of Finance rejected initial request for \$190M and gave \$60M as guidance. We were therefore forced to prioritize Companies, slashing most budgets and cutting all funding to bottom 12 Companies.
- Added 5 IRDC members to staff on June 15 to conduct detailed due diligence. All 5 grew up in Iraq and most worked for the MIM in the past.

What our limitations have been:

- Only one vehicle for entire MIM staff, making it difficult to visit Companies.
- Only one computer for entire MIM staff.
- No administrative help. Data entry for all 48 Company profiles performed by (b)(6) during evenings.
- Until June 15, entire due diligence team consisted of 2 people, (b)(6)
- Most Company management teams were fired in de-Ba'athification. New management teams not well informed on even the most basic statistics, such as total revenue and top customers.
- Most Companies performed little more than manufacturing. All sales, pricing, marketing, raw material purchasing, accounting and other corporate functions performed at the Ministerial level.
- Some Companies not cooperative in providing data.
- Historical financials at most Companies were destroyed in looting.
- Approximately 40% of time spent on non-due diligence issues, such as evaluating the effect of proposed CPA policies on SOEs.
- We been constantly forced to "put the cart before the horse" in making conclusions on Company viability before having sufficient time to collect even the most perfunctory information on Companies.

Initial conclusions:

Disclaimer: The following assessments are based on extremely limited information, and are subject to revision.

- Of 48 Companies, 15 appear to be strongly viable. They have inexpensive local sources of raw materials. There is significant local demand for their finished products. Their equipment is in

reasonably good condition (due to 12 years of sanctions, very few SOEs have "impressive" equipment). In some cases, they have a competitive advantage over imports due to the prohibitive cost of transporting their finished goods over long distances. Even though these are the best Companies in the portfolio, they will still require additional funding to recover from the war and restructure for free market operations.

- Another 15 Companies have potential to be viable, but will require some restructuring and additional investment in equipment.
- Another 10 Companies appear to be very weak, and would require massive restructuring and investment to maintain their 2002 output and staffing. These Companies would most likely be perpetual money-losers.
- Another 6 Companies are either completely destroyed or so inefficient that they have little to no chance of survival in the free market.
- The final 2 Companies should be integrated into other SOEs or the Ministry. For example, Research & Development was treated as a separate Company, but did not have any real revenues.

COALITION PROVISIONAL AUTHORITY
BAGHDAD

SUBJECT: Iraqi 2004 State Owned Enterprise Budget
Summary Points of Feb. 24, 2004 Meeting

FROM: (b)(6)
Private Sector Development Directorate

DATE: February 24, 2004

The following is a summary of points addressed in the Feb. 24, 2004 04 SOE Budget meeting. The summary below also includes recommended 04 budget policies

Salary Subsidies:

- To promote social stability, all SOE employees in 2004 will continue to receive salaries from their respective ministries according to the 4 tier pay scale
- Each ministry will be allocated a salary budget according to the new 11 tier pay scale (40% raise)
- In order to be able to provide some sort of incentive pay program, the ministries with input from SOE management can pay select SOE employees according to the new 11 tier pay scale
- Any salary budget funds at the ministry level that are not used to pay salaries can be allocated by the respective ministry to select, performing SOEs. These funds could address outstanding accounts payable, fund capital expenditures or provide working capital
- For the employees of SOEs that are to be reclassified as state agencies (becoming ministry employees) and for individual SOE employees transferred to a ministry (most likely some SOE employees from the Military Industry Commission – MIC), their salaries based on the 11 tier scale will be allocated from the SOE budget. In 2005, any transferred SOE employees should be paid under ministry budgets
- SOEs that are generating cash flow should be allowed to build cash reserves for working capital and capital expenditure. An annual review based on an audit by the MoFinance with the respective ministry would determine if any SOE profits are to be returned to the MoFinance
- For SOEs that generate sufficient cash, the MoFinance will review with the respective ministry on a quarterly basis to determine if any further salary subsidies are needed.
 - By 3Q04, SOEs in the cement, petrochemical and fertilizer sectors are expected to be profitable due to the availability of reliable electricity
 - DFI funds are being used to purchase generators for these SOEs
 - The MoFinance should expect that the SOEs that will soon receive sufficient electricity will not need further salary subsidies by the start of 4Q04. This will provide some relieve to the 04 SOE budget

Accounting:

- In order to encourage SOEs to manage themselves as profit and loss companies and to develop financial statements that truly reflect the economic status of each SOE, salary and other subsidies should be booked as liabilities, not as revenue. The subsidies can be a 2 year interest free liability due to the MoFinance. It would be up to the new Iraqi government to decide if these liabilities will be called
- The MoFinance should require each SOE to submit quarterly financial statements in accordance to International Accounting Standards and the Board of Supreme Audit should conduct annual reviews of each SOE

Remaining Balance of 04 SOE Budget:

- SOEs that are to be reclassified such as vocational schools and inspection agencies will need an operating budget (other than salaries) that will transfer to the respective ministry. The Private Sector Development Directorate will provide a proposed operating budget for the few, relevant SOEs
- The remaining balance of funds will be held in reserve to fund programs that are approved by the Program Review Board. Seeking funds to upgrade the electrical power infrastructure for critical SOEs (cement and fertilizer) is a very high priority. The lack of power remains the primary obstacle to standing up many critical SOEs and this office expects to request PRB approval for additional electrical upgrade projects

Other

- For SOEs that do not play a critical role in Iraq's economic reconstruction, the capital expenditure loan program through the SOE banks should remain open. Senior advisors can assist the SOEs that make an effort to develop budgets and apply for loans

Ministry of Industry and Minerals (MIM)

Proposed Re-organizational Plan
Submission from CPA

MIM Planning Considerations

MIM must restructure to deal with two concurrent missions (the twin pillars) in mind:

- Performing as a holding company for State Owned Enterprises
- Performing as a government agency responsible for industrial and mineral development.

The former is short-term in nature (adjusted as privatization occurs)... the later is long term in nature (shall develop in time).

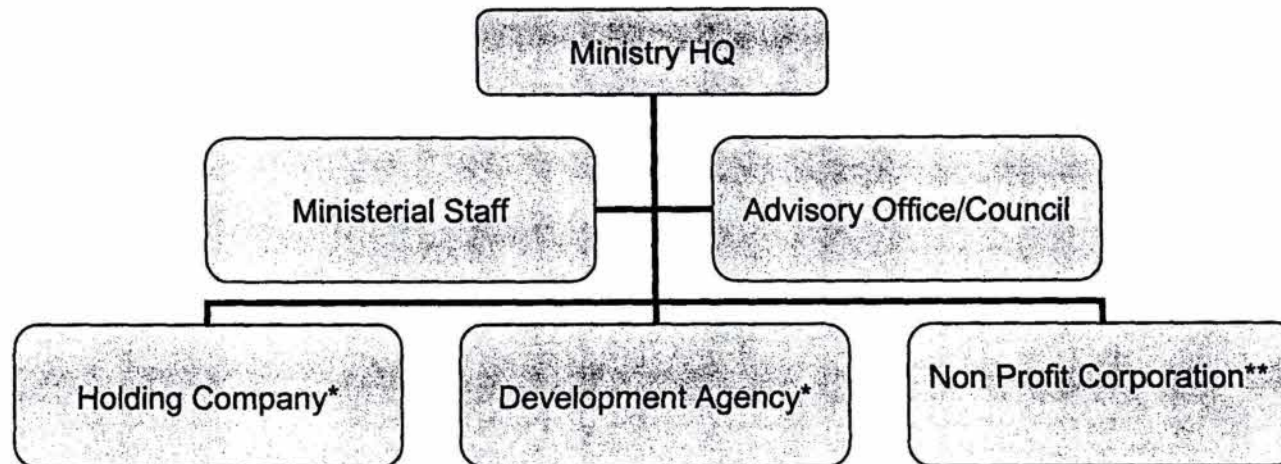
MIM Planning Considerations

MIM must restructure with Iraq's and the Ministry's future in mind:

- Iraq becomes market oriented
 - The Ministry
 - Focuses on assisting the private sector in industrial and economic development
 - Becomes a leaner organization
 - Must manage an organizational transition (phased reorganization)
-

MIM

Organizational Proposal



* Deputy Minister Status

** Situational Option

MIM Planning Considerations for the “Holding Company”

MIM must establish an organizational capacity that is rational and efficient. As a holding company the following “**Staff**” recommendations are paramount:

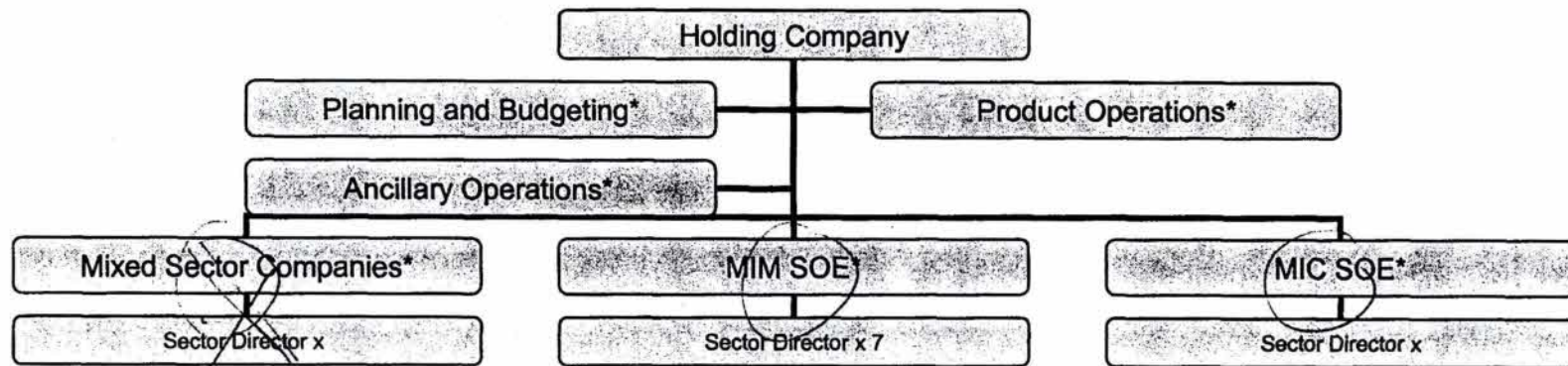
- Planning, Auditing, Investing and Budgeting are one Directorate
 - anything of a financial/resource nature should be consolidated and combined with planning
 - Identify ends, ways, means
 - Plans presented, assessed, discussed and approved prior to new fiscal year
 - Plans are assessed during the year and at years end to assess targets
 - SOE Core Operations should be consolidated in one Directorate: Role is to advise and assist the SOE management:
 - Technical Department
 - Sales and Marketing Department
 - SOE Ancillary Operations should be consolidated in one Directorate: Role is to advise and assist the SOE management:
 - Security
 - Legal
 - Administration
-

MIM Planning Considerations for the “Holding Company”

The following “***Line***” recommendations are paramount:

- Establish Directorates for SOE Affairs to provide the Deputy Minister of the Holding Company a manageable span of control:
 - Mixed Sector SOE
 - MIM SOE
 - MIC SOE (former)
 - Sub-classify the Directorates of SOE Affairs on a sectorial basis (Current sector distinctions are adequate)
-

MIM "Holding Company"



MIM SOEs

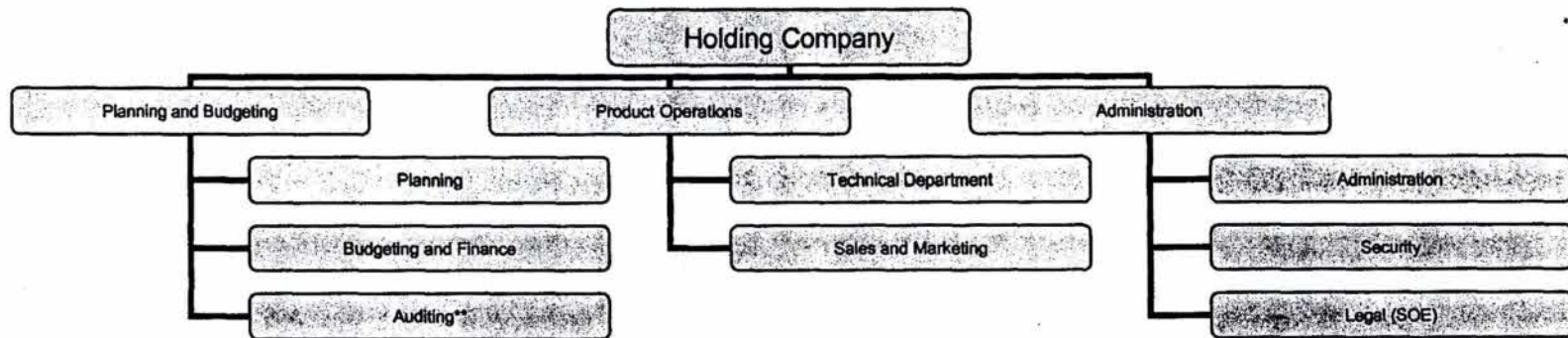
Sectors Strategy

Sub-functions organized on a sectoral basis

* Operational coordination

MIM "Holding Company"

Staff Functions



Sub-functions organized on a sectoral basis

* Operational coordination

** Financial and Production

MIM Planning Considerations for the “Industrial and Mineral Development Agency”

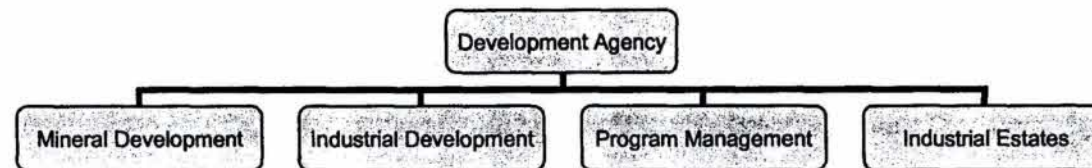
A meaningful Industrial and Mineral Development Agency should incorporate the following features:

- Mineral Resource Development: “Front end” for MIM's interaction with the private sector inside and outside of Iraq interested in developing Iraq's Mineral resources
 - Geological Survey: In addition maintain intelligence on mining industry/cluster knowledge both inside and outside Iraq. Capable deal makers on projects. Work closely with Mineral Promotion and Mineral Development Departments
 - Mineral Promotion and Marketing (mining and quarrying)
 - Industrial Development (salts, chemicals, minerals, nonmetallic minerals)
 - Program Management
 - Industrial Development and Marketing: “Front end” for MIM's interaction with the private sector inside and outside of Iraq for industry's seeking public assistance
 - Strategic Industry Department: Maintain market intelligence on industry/cluster knowledge both inside and outside Iraq. Capable deal makers on projects (financing, technical assistance, site location). This element could be organized either geographically, industrial/cluster basis or sub-classified in to heavy vs. light industry. Work closely with Industrial Promotion and Marketing and Industrial Development Department).
 - Industrial Promotion and Marketing
 - Industrial Development - focused on recruiting and retention (to include research and development)
 - Program Management
-

MIM Planning Considerations for the “Industrial and Mineral Development Agency” (Continued)

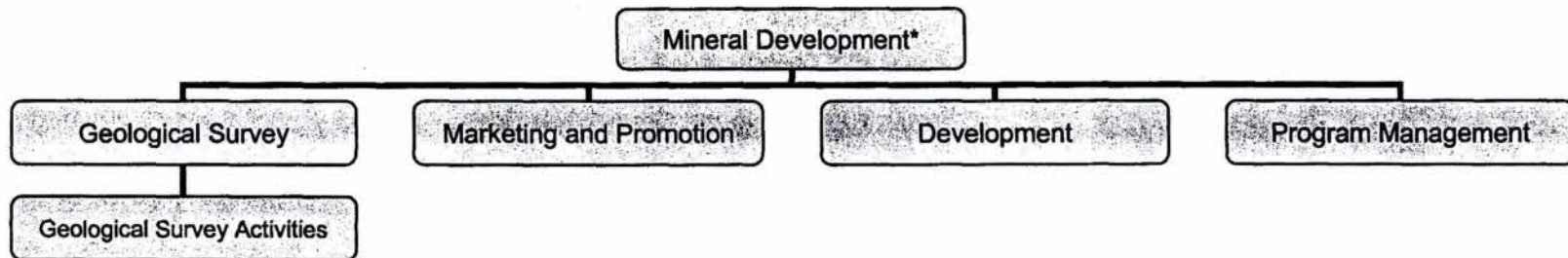
- Program Management – Programs in support of the Private Sector
 - Work force training programs (to work closely with Ministry of Labor)
 - Technical and Environmental programs
 - ISO
 - Business certification/bank lien filings
- Industrial Estates/Parks
 - Care taker (oversee day to day operations)
 - Planning and design
 - Develop infrastructure
 - Develop spec buildings or build to suit options
 - Investment development
 - Marketing

MIM “Industrial and Mineral Development Agency”



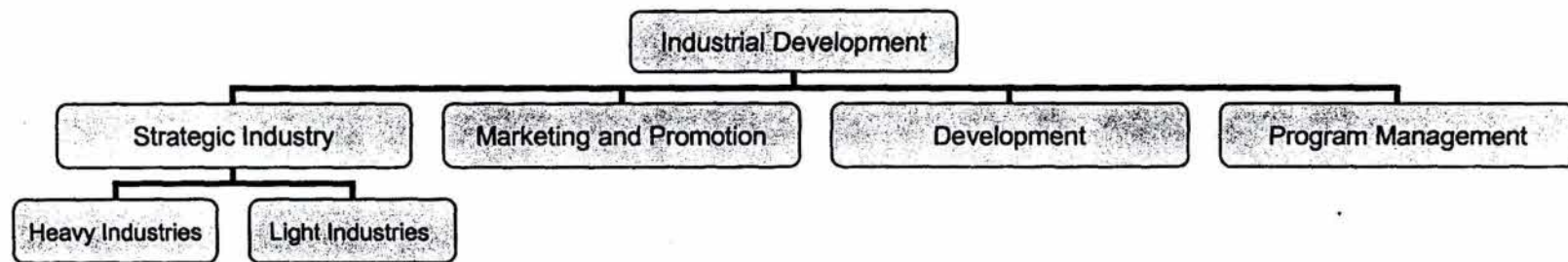
Development Agency integrates the activities of Geological Survey, Training and Development and Tanmia

MIM “Industrial and Mineral Development Agency”



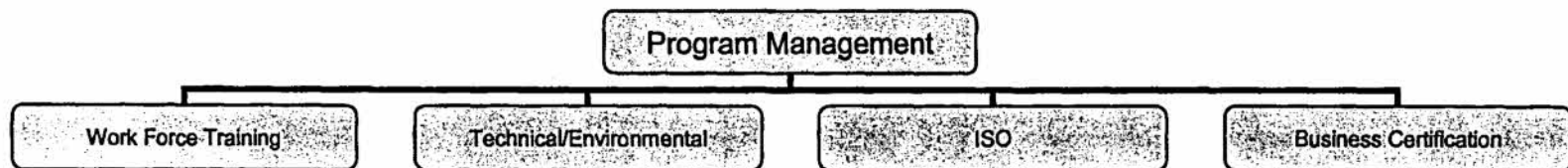
The DG of Geological Survey fulfills the role of DG of Mineral Development

MIM “Industrial and Mineral Development Agency”

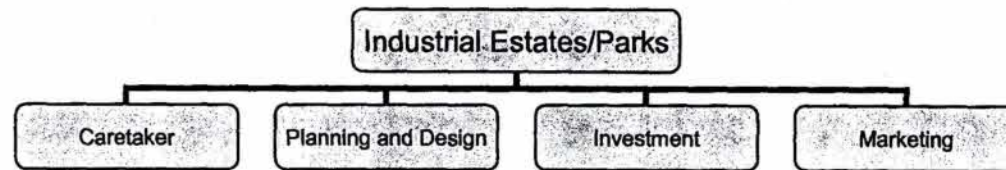


Could be organized on sector,
cluster or geographical basis

MIM “Industrial and Mineral Development Agency”



MIM Planning Considerations for the “Industrial and Mineral Development Agency”



200 million
for Industrial
Park Development -

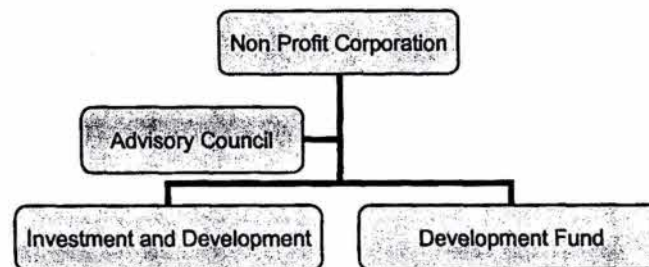
MIM Planning Considerations for the Non Profit Organization

Non Profit organization:

- A **means to manage the transition** from what you are to what you can become (Iraq's premier industrial development agency)
- A **public-private partnership** in Iraq's industrial and economic development
 - A **new way not associated with the past**
- Advisory Council is Board of Directors
- Investment and Development
 - Where investment decisions are **staffed** (both current practice and public sector assistance to private companies)
 - Conduct due diligence on companies seeking public sector financial assistance.
 - Work very closely with Development Agency to develop deals
- Development Fund
 - An Industrial Development non bank, bank for Private and Public Sector Projects
 - Development fund accounting and auditing
- Non Profit Corporation is **not Civil Service** (voluntary transfers or private sector hires)
 - A "professional staff" that must maintain itself from returns on investment
- Development Fund
 - MIM surplus for 2004 transferred to NPC
 - Matched by Iraqi/Pan Arab private sector (Development Fund under discussion)
 - Provides funding – debt financing or equity to companies – or grants to Development Agency
 - Investment **decisions no longer become SOE focused**

*Public/Private
PLS*

MIM Non Profit Organization



Advisory Council serves as Board of Directors for Non Profit Organization
Defend against conflict of interest

Legal framework must define it as an association of the MIM

Non Profit Corporation is not Civil Service (voluntary transfers or private sector hires)
Must maintain itself from returns on Investment

Development Fund

MIM surplus for 2004 transferred to NPC

Matched by Iraqi private sector Development Fund (under discussion... Sami and Shakir)
Provides funding to private sector development (subordinated debt, etc.)

Investment decisions no longer become SOE focus

MIM Planning Considerations

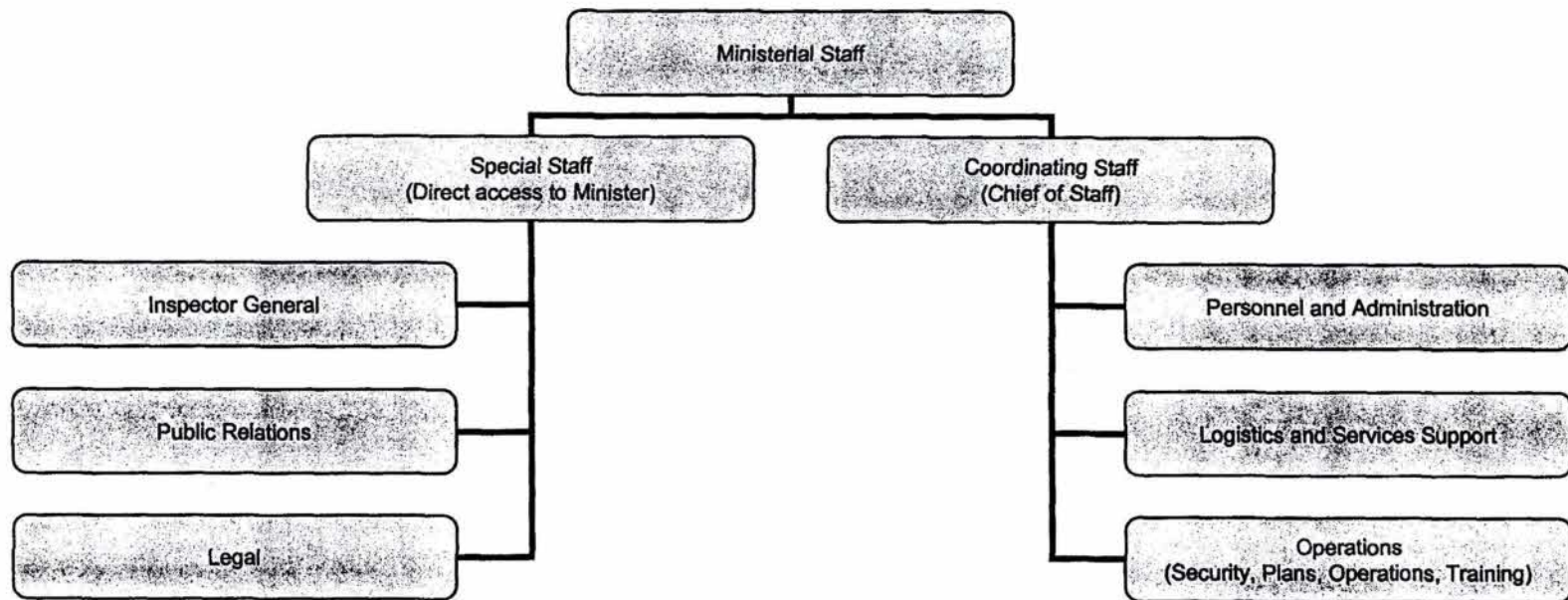
Ministerial Staff

The Ministerial Staff will perform:

- Special Staff Functions for the Ministry/Minister – direct access to the Minister
 - Inspector General
 - Public Relations
 - Legal
 - Coordinating Staff – directed by a Chief of Staff
 - Administration and Personnel Management
 - Logistics and services support
 - Operations
-

MIM

Ministerial Staff



MIM Planning Considerations

Advisory Council

The Advisory Council performs as:

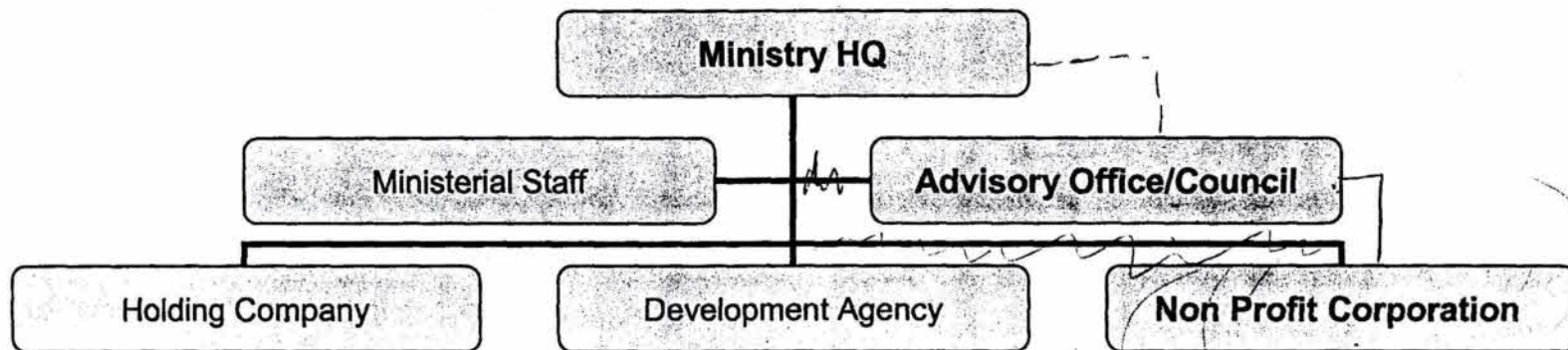
- The advisory office to the Minister
- To coordinate the activity of a wider advisory council which meets periodically to make recommendations and suggestions to the minister.
- To crystallize a vision for the Ministry, its role in the future.
- The Board of Directors to the Non-Profit Organization
- The Board of Directors of MIM developing its policies and future outlook and to review its investment decisions
 - The results of SOE activities and their investment decisions
 - Investment promotion of new industrial concerns

The Advisory Council – mix of public and private sector with a preponderance of private

- Three to be selected from the MIM staff (Minister and proposed Deputy Ministers)
 - DG's from various sectors
 - Prominent members of the private sector, industrialists, banks, investors, industrial consultant, accountant and a lawyer
 - To avoid a conflict of interest board members must resign if they seek public assistance for personal projects
 - To avoid a conflict of interest members must abstain on voting on projects with a personal interest
-

MIM

Organizational Proposal



Advisory Council has a relationship to the Ministry and the
Non Profit Corporation

*Legal
checked as*

MIM

Organizational Proposal

Concluding Thoughts

- The MIM can incorporate current sub-functions as they see fit...
- Only the two pillars is sacrosanct
- The reorganization could be phased in
 - Implement the reorganization of the Holding Company and Ministerial Staff now
 - Form an Advisory Council now
 - Plan and coordinate the Development Agency
 - Integrate Geological Survey and Tanmia
 - Phase the implementation to accommodate personnel reassignments from the Holding Company
 - Plan and develop the Non Profit Corporation
 - Seek broad support from the private sector
 - Use the Advisory Council to develop a coalition of support for the GC and the Ministry of Finance

Minutes of Meeting

Held at the ministry of industry and minerals on dd.mm.yy

Subject:

➤ CHECK LIST

1. Employment is a deal breaker to most propositions. The lessee accepts the current staff level. ☐
2. Review of staffing levels is possible provided that the lessee propose a package acceptable to employees. ☐
3. The staff will remain government employees, the Iraqi law is the dominant law. ☐
4. The business plan , as an appendix to the contract, agreed upon during negotiation can be changed subject to approval by the Ministry. ☐
5. The length of the lease is between 5 and 10 years, subject to change due to privatization law. ☐
6. Any inventory and current materials will be purchased by the lessee at a fair price to be determined by independent expert. ☐
7. Length of time it will take to refit the factory until it is operational. ☐
8. Start of the lease. ☐
9. The lessee will share the facilities within the company grounds. ☐

10. The ministry will monitor the lessee implementation of the business plan. The ministry shall require annual audited financial statements. ☐
11. The production will be based on minimum satisfactory standards and supported by central quality control and measurement systems. ☐
12. Safety and environmental regulations as set by Iraqi law will be observed and implemented at all times. ☐
13. The review of the rent is in two years time and will use a formula based on profits or revenues. ☐
14. The ministry will purchase the equipment at one time book value at the end of the lease. ☐
15. The lessee will insure the assets of the factory. ☐
16. The Iraqi law is applicable during the lease time. ☐
17. The remedies and penalties for non-performance according to the business plan. ☐
18. the ministry will take charge of any debt before the signing of the contract. ☐
19. The rent is per annum and will be reviewed every two years. The rent starts at the signing of the contract. ☐
20. The deposit of 25% of the cost of the annual rent will be paid on signing the contract. ☐

➤ NOTES

➤ CONDITIONS

➤ COMMENTS

➤ ACTION PLAN