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- CAPABILITIES FOR LIMITED CONTINGENCIES IN THE PERSIAN GULF (PART ONE OF A TWO-PART STUDY)

OASD (PA&E)

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EXECUTIVE SUMMARY (U)

STRATEGIC ISSUES AND POTENTIAL PROBLEMS (U)

(U) We and our major industrialized allies have a vital and growing stake in the Persian Gulf region because of our need for Persian-Gulf oil and because events in the Persian Gulf affect the Arab-Israeli conflict.

(🖌) The importance of Persian-Gulf oil cannot easily be exaggerated:

By 1985, the Persian Gulf will provide about 30%, 50% and 70% of the peacetime oil requirements of the US, Western Europe and Japan, respectively.

From this it follows that fundamental US objectives should include:

- -- improving our ability to protect oil supplies from physical destruction or seizure (and to restore the flow of oil should interruptions occur);
- -- minimizing Soviet influence over the policies of the oilproducing states;
- -- influencing Arab states to take increasingly moderate positions on Israel, oil, and the West; and
- -- controlling the influence of radical Arab states such as lraq, and preventing such states from using their military power to coerce or overthrow moderate gove mments.
- preventing regional conflicts from escalating into superpower confrontations.

(5) Failure to achieve these objectives would be very serious: (1) wars or blockades interrupting the oil flow for extended periods would cause massive economic disruptions; (2) Soviet control of the oil flow could probably destroy NATO and the US-Japanese alliance without recourse to war by the Soviets; and (3) radical dominance in the region would probably lead to another Arab-Israeli war, an oil embargo, and possibly a superpower confrontation.

(S) Some of the specific problems we may face include:

- Threats to moderate states by radical regional powers (e.g., Iraqi threats to Kuwait)
- -- . Insurrections or civil war in moderate states (e.g., a pro-Soviet guerrilla movement in Saudi Arabia)

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E Intervention in moderate countries by Soviet forces or Soviet proxies (e.g., Cuban or Ethiopian forces supporting a rebellion in Oman)

- Indirect pressures from Soviet-inspired events in Afghanistan, Pakistan, and the horn of Africa.
- A Soviet invasion of Iran (perhaps under the cover of a peacekeeping role if civil war should break out), and perhaps with the objective of ganing control over the Persian Gulf
- Direct attacks on the oil facilities, either by guerrillas or as part of a larger war
- -- Threats to or attacks on oil SLOCs (e.g., mining, submarine and air attacks on tankers, or Soviet control of the Strait of Hormuz)

(U) The range of possibilities is large, and the nature of our force requirements would vary with scenario. Thus, depending on the case, we might need:

- -- Marines, airborne forces, air cavalry, tacair, or naval "presence"
- -- Mountain or desert-warfare capability
- Advisors and counter-insurgency specialists, token combat forces, or a major commitment.

Given this situation, and also the fact that we cannot even predict who will be the enemy of whom five years hence in the Middle East, it follows that our contingency force should be diverse and flexible. <u>Today's contingency</u> force is not well suited to many of the problems <u>it is likely to face</u>; rather, it consists of forces available given other commitments (albeit forces of high quality and readiness), rather than of forces chosen for the purpose.

11. VULNERABILITY OF OIL FIELDS, 31L FACILITIES, AND SLOCS (U)

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A. OIL FIELDS AND SHIPMENT FACILITIES (U)

(U) Pipelines and individual oil wells might be attractive targets for terrorist groups, but the oil fields are large and dispersed, accessis difficult, and the effects of isolated attacks would not be great economically--primarily because oil workers are skilled at making temporary repairs and in bypassing trouble spots. One important exception should be noted, however: fires in some of the larger wells could be difficult to extinguish. Such fires could be avoided by installing the "down-hole storm chokes" now used on offshore wells.

(\$) By contrast with the oil fields themselves, the shipment facilities are high-value concentrated targets:

 65% of all Persian Gulf oil production passes thro gh only three facilities--Ras Tanura and Juaymah in Sudi Arabia, and Khark Island in Iran.

These facilities could be attacked from the air or sea, or by terrorists. Even limited and unsophisticated attacks could cause serious disruptions because of fires and damage to pier facilities. During a war with NATO, and possibly under other circumstances, the facilities could be a prime target for the Soviet Union.

(S) It is difficult to estimate what minimum level (f bombing might have a serious effect, but critical pumps of the three principal facilities are located at only 8 points, and by destroying these targets an attacker could have high confidence of virtually shutting down the facilities. For example, in the absence of defenses:

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Chief, Decrass B: Dir. & Rec. Div. WHS 500 Backfire sorties could reduce oil production at the three principal facilities by about 50%, and cut overall oil flow from the Persian Gulf by more than 30%.

Sortie requirements are sensitive to CEP and bomber payload (assumed to be 350 ft. and 10 500-kg hombs for Backfire). Requirements could be 2.5-8 times greater for less-skilled Arab pilots using MiG-23 Floggers. On the other hand, laser-guided bombs (which the poviets probably already have in inventory) could reduce softie requirements by a factor of 10.

It should be emphasized that these are <u>offense</u>-conservative calculations ignoring collateral damage from fires and pier damage, and focusing solely on pump destruction--realistically, many fewer sorties could probably cause serious and possibly long-term damage.

(5) <u>Defenses</u>. The effectiveness of the air defenses not protecting some of the oil facilities is highly uncertain, and US tacair and Hawk batteries could be very useful. Furthermore, Air Force studies show that with early warning aircraft such as E-2Cs or AWACs, land- or air-defense aircraft could inflict heavy attrition on attackers (if the Even if our adversaries have smart bombs, defenses night be very effective--in part by raising attrition rates, but also by reducing the attacker's effectiveness.

(S) <u>Repairs</u>. Although we lack the technical base for firm judge-

In some cases, damaged facilities could be repaired in a matter of weeks rather than years, especially if plans were made in advance to make available replacement parts and large numbers of specially-trained workmen. No such plans exist today, and repairs might take months or years.

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KEEPING THE OIL SLOCS OPEN (U)

Unti recently, it was widely believed that the Soviets could close the oil 'LOCs rather easily through mining, and through attacks by submarines and aircraft. However, our analysis indicates that the Soviet submari es would have severe problems because of the long distances between the region and their home bases. Making the important assumption that crews would operate the tankers in the presence of a threat (experience indicates this would probably require incentive pay, special insurance programs, and recognized presence of defensive and rescue forces), then the effect of attrition on oil flow would be relatively small considering the Soviet effort required to achieve it; illustrative campaign analyses indicate:

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- In a 30-day campaign, 6-10 Soviet submarines might sink about 2-10% of the tankers in the SLOC, but submarine attrition would be very high (30-50% for tanker attrition of 5-10%).
- Results would be more favorable to the West after the 30 days.

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Cluet, Declass Br Dr. & Rec. Div, WHS brought in Air Force and Naval tacair; the attacks could not be sustained unless the Soviets had defendable inregion bases, and interceptors to escort their attack aircraft.

The Strait of Hormuz could probably be mined in a surprise move, but defenses would prevent follow-up mining. The Strait could be reopened in 2-4 weeks using about half of the US helicopter minesweeping forces.

Air attacks on the SLOC would be very effective initially, but would become extremely costly for the Soviets as we

(S) Obviously, these conclusions depend on a number of assumptions. Among the most important are:

- The US could and would attack any regional bases or ships (regardless of flag) supporting the Soviet offensive effort.
- Bases would be available for P-3 ASW operations, for ground-based tacair, and for resupply efforts.
- Carrier task forces would be available for SLOC protection and would be able to defend themselves.
- US helicopter minesweeping resources would be available for this theater.

(S) The air threat to the SLOC is potentially more serious than the submarine threat. It would be an ominous development if the Soviets tuilt major regional port facilities for resupplying submarines, but it

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would be even (SAMs or inte	n more ominous if they brought in SNA bombers and defenses erceptors). It is clear that we could not allow sanctuaries.
(5) Ass are worth mak the need to e Soviets a sub depend on coo for use in th the port of A	sumptions about bases are always troublesome, but three points ing: (1) the growing importance of Diego Garcia suggest equip it with defenses; (2) our ability to deny the marine resupply sanctuary near the Cape of Good Hope will peration from South Africa or our ability to spare carriers at region; and (3) the Soviets are making increased use of den in South Yemen, and improving port facilities in Ethiopia.
(S) The carriers is t services (e.g Union in the future Soviet efforts to min This makes it petroleum stor interruptions the several min	most worrisome aspect of our dependence on tacair ind hat there might be too many simultaneous demands for their ., war in Europe, ground war against lraq or the Soviet Persian Gulf, war in Korea, offensive operations against regional bases, defense of the Strait of Hormuz against ne it, ASW operations near the Cape of Good Hope, etc.). especially important that we take steps, especially in ckpiling, to reduce US and Allied vulnerability to short of the oil flow, thereby providing more time to attack ilitary problems.
C. RECC	DMMENDATIONS
(5) Anal items:	ysis indicated that actions should be taken on the following
•	The US needs assurances from Persian Gulf and African littoral countries that bases would be available to support aircraft and communication facilities in the event of a threat to the oil SLOCs. The bases involved include Masira, Djibouti, St. Helena, Ascension, and Diego Garcia.
DECLASSIFIED AUTHORITY EO 12958	Facilities on Diego Garcia should be improved to provide better support for operations in the Persian Gulf and Indian Ocean. Diego Garcia itself should be defended against air and naval forces.
Chiel, Declass Br Dir Rec. Div. WHS	The oil-producing countries should be encouraged to "harden" their facilities against air and terrorist attacks (this should include use of "iown-hole storm chokes"). They should also be encouriged to improve their minesweeping capabilities. The US should improve its helicopter minesweeping capability, especially against advanced deep-moored mines.
•	The strategic petroleum reserve should be completed, and our sources of supply should be diversified (e.g., encourage Mexican production).
•	There should be a stockpile of portable oil field equip- ment, or an inventory of such equipment for use in emergency oil facility repairs. Preplanning of repair SECRET 5
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efforts could be critical, and the US and the oilproducing companies should develop an emergency repair capability, perhaps involving military construction units such as Navy SEABEES and Army Pipeline Construction companies as well as private contractors.

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Chief, Declass Bi Dir, & Rec. Div. WHS Because of Saudi and Kuwaiti sensitivities, planning for defense of and repairs to oil facilities should be conducted with a minimum of public discussion and a maximum of cooperation between producers and users.

Cooperative actions to protect oil supplies and SLOCs should be discussed with NATO countries, Japan, and other oil users. These should include joint exercises and contingency planning.

III. NON-SOVIE" PERSIAN GULF CONTINGENCIES

(U) Of all the regions where the US has major interests, probably none has more otent al for conflict than the Persian Gulf. If we consider the region between Pakistan and Iran in the Northeast, to the Yemens in the Southwest, there have been, since 1950, approximately 22 coups, 8 assassinations of heads of state, 6 major internal wars, 3 international wars, and a number of large scale civil disorders--without counting the Indian-Pakistan or Arab-Israeli conflicts.

(U) In spite of this turmoil, there has been a certain macroscopic stability in the region: the three major regional powers (Iran, Iraq and Saudi Arabia) have not clashed seriously, and the West's supply of oil was seriously interrupted only by the 1973 embargo. The reasons for this macroscopic stability are several: (1) the role of cutside militory powers (especially Great Britain until 1971), (2) the approximate military balance between Iran and Iraq, (3) the willingness of Iran to use her power to promote stability (e.g., by commiting forces to support Oman in the Dhofar rebellion), and (4) the tendency of the Arab-Israeli dispute to submerge inter-Arab disputes. Unfortunately, the situation may now be changing.

(5) The Iraqi Threat. Figure 1 shows the ground forces of the regional states, and demonstrates that Iraq and pre-revolution Iran were roughly in balance. However, Iran's armed forces are now in disarray, and Iran is ne ther willing nor able to play the role of a regional balancer. As a result, 1 aq has become militarily pre-eminent in the Persian Gulf, a worrisome de elopment because of Iraq's radical-Arab stance, its anti-Western a titudes, its dependence on Soviet arms sales, and its willingness to foment trouble in other local nations. The potential threat posed to Western interests by Iraq's increased role is largely independent of Soviet activities--although Iraq currently has better relations with the Soviet Union than with the West, she is by no means a Soviet proxy. We should not assume Iraq is necessarily going to be an adversary, especially if the Soviets venture into the region. Nonetheless, at present, it seems likely that we and Iraq will increasingly be at odds.

(S) The emerging Iraqi threat has two dimensions. On the one hand, Iraq may in the future use her military forces against such states as Kuwait or Saudi Arabia (as in the 1961 Kuwait crisis that was resolved by timely British intervention with force). On the other hand, the more serious problem may be that Iraq's <u>implicit</u> power will cause currently moderate local powers to accommodate themselves to iraq without being overtly coerced. The latter problem suggests that we must not only be able to defend the interests of Kuwait, Saudi Arabi, and ourselves against an Iraqi invasion or show of force, we shou d als make manifest our capabilities and commitments to balance Iraq's power--and this may require an increased visibility for US power. Although we have always preferred to help local countries become responsible for regional security, it is not likely that any of the local ccuntries will soon be able to counter Iraqi influence.

(5) Another basic problem is that Iraq has a sizable army close to where it would be employed (e.g., Kuwait City is only 50 nm from the Iraqi border, and Saudi oil fields are within 300 nm). Figure 2 shows an illustrative buildup of US and Iraqi forces along the Kuwait-Iraq border assuming a crisis that does not involve actual combat (the buildup rates would obviously be different once combat began). The figure and related analysis suggest:

- -- If the US were to intervene at all, it would be desirable to do so early in the crisis, before hostilities began, and while escalation might still be avoided.
- If Iraq precipitated a crisis with Kuwait or Saudi Arabia, it would be totally dominant until US force. arrived.
- Without forward deployments, the US could not get significant ground forces to the region for 10-20 days at best, and force ratios would be worse than 2:1 for at least 25 days; furthermore, US buildups would depend upon the uncertain availability of forts and airfields. However, in the absence of opposition, Iraq could conquer Kuwait, seize Saudi oil fields, and capture critical airfields and ports within a week or two.
- Although the US would have advantage in training, troop quality, and equipment, Iraq would have much heavier forces and greater familiarity with the climate and terrain.
- The pro-Iraq asymmetry in ground forces would have to be compensated by US tacair, especially during the first 25 days or so. The deterrent value of US tacair could be a critical factor.

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Although there are other considerations that go beyond the scope of the present study, the above points argue for the US having substantial in-place forces such as a carrier task force, and perhaps an Amphibious Ready Group. As a minimum, they argue for having the demonstrated operational capability to sustain such forces in the region during prolonged periods of potential crisis. At present, we have limited operational experience in the Indian Ocean and Persian Gulf, and no practical and exercised mechanism for sustaining a surge deployment.

(S) Our analysis indicates that US tacair is potentially ritical to our projection capabilities for the Persian Gulf--in part because it is the only way to compensate for early asymmetries in ground forces, and in part because Iraq is presently very vulnerable to air attack.

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Chief, Declass B: Dir. & Rec. Div. WHS Carriers could conduct strike operations from the Persian Gulf, although they would be at some risk because of the limited area and potential threat from strike aircraft. Results would obviously depend on tactics and circumstances, but it is worth noting that two surprise strikes at night by each of two carrier air wings could disable on the ground 75% of Iraq's bomber force, and 85% of its interceptor force. Furthermore, the marsny terrain near the Kuwait border would make interdiction of the limited road network a high-payoff mission.

(5) Although Iraq could decrease her vulnerability substantially with better defenses and revetments, it is clear that an in-place carrier could be a powerful deterrent. Given permanent basing, or a fly-in well before hostilities began, ground-based tacair might be even more effective. However, it is unlikely we will obtain such bases, and it is not certain how quickly tacair brought into the Saudi bases during a crisis could be fully operational there. Exercises would be invaluable for building operational experience in this region.

(S) Other Contingencies. Except for conflicts involving the Iraqis, Iranians and/or Soviets directly, Persian Gulf contingencies are likely to be low-level drawn-out affairs with a guerrilla character. The US role in such conflicts should probably be very limited (e.g., supplying arms, training and some logistics). Furthermore, there is reason to question our current competence to assist local governments in these matters--our weapons are too sophisticated, our methods of war inappropriate, our freedom to use covert methods limited, and our knowledge of the region scant. The Saudis, British, French, and Jordanians (and perhaps in a few years the Egyptians) are all potentially better suited than the US to assist such states as YAR and Oman. This would be true even if there were a moderate influx of Soviet proxies.

HST Nonetheless, there may indeed be special circumstances in which it is necessary to use US forces. These would be most likely to call for such activities as:

> using US airlift to move third-country forces into YAR or Oman

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	APR 2 3 2003	using the US Navy to prevent movement of arms into Aden				
00	Het. Declass Br & Rec. Div, WHS	using US Marines or airborne forces in a peacekeeping role or to protect critical oil facilities				
		using US tacair to destroy the PDRY air force and to provide support for friendly ground forces				
		using US helicopters to move friendly ground forces				
		 using US tacair and possibly ground forces to counter lar e Cuban or Ethiopian forces (force levels of 10,000- 30, 00 are certainly a possibility). 				
It should be emphasized that even if the principal burden in these contingencies were assumed by local states such as Saudi Arabia, US forces might be essential to protect them from retaliation from the lraqis, Iranians, Cubans, or even the Soviets.						
					 Moderating Iraq's policies, providing a credible and visible balance to Iraq's local power, and limiting Cuban-Ethiopean ability to intervene should be a matter of priority interest. It may require a substantial upgrading of US forces in the Indian Ocean. 	
	•	A variety of US and allied forces should be deployed through the Indian Ocean and, as political constraints permit, into the Persian Gulf. They should exercise separately, jointly, and jointly with local forces, to identify and solve practical operational problems.				
	٠	Options should be developed and analyzed for year-round presence of a carrier task group and/or an Amphibious Ready Group.				
	. •	Options should be developed for pre-positioning equipment and supplies so that the US could more rapidly build up ground forces and tacair in response to an Iraqi-generated crisis.				
	•	More campaign analyses should be conducted to better elucidate how alternative US projection forces would actually be employed in various Persian Gulf scenarios. Details matter in determining how much is enough.				
	•	Options should be developed for constructing balanced contingency forces specially configured and trained for Persian Gulf scenarios.				
		Contingency plans should be developed and realistically assessed for using US or allied forces in support of a local government engaged in a guerrilla-style conflict. Joint exercises and close liaison should be encouraged. Asking allies such as the British to play a more active role in training local forces for irregular warfare should be seriously considered.				

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IV. CONTINGENCIES INVOLVING SOVIET PROJECTION FORC 5

(5) There is no simple way to compare US and Soviet capabilities to project forces to the Persian Gulf, because there are many variables, including:

- composition of the projection forces (light vs. heavy, ground vs. tacair, airlift vs. sealift suitability, et .)
- availability of enroute basing and overflight rights
- -- security of the air and sea lines of communications

DECLASSIFIED AUTHORITY ED 12956 availability of aircraft and shipping (a function not only of maintenance schedules, but also of the willingness to use civilian assets)

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Chief, Declass Bi Dir & Rec. Div. WHS utilization rates (i.e., the average number of flying hours per day; this takes into account details of the particular operation, and such basic parameters as the number of available pilots and mechanics, mean time between failures, mean repair time, etc.

 Scenario details such as who goes first, who has the benefit of some pre-positioning, etc.

(5) The Soviets have several distinct advantages: they are much closer to the Persian Gulf as the crow flies (roughly 1,50) vs. 7,000 nm for airlift purposes); their initial forces could arrive earlier; and they have a substantial number of light forces at a high level of readiness--7 airborne divisions in particular. However, the US also has important advantages, including: aircraft carriers: more reliable SLOCs that are unlikely to be closed by political or military factors; more effective long-range airlift and refueling; the probable ability to achieve air superiority in the region of interest; more flexible tacair units; and a great deal of operational experience with airlift.

(5) Figure 3 shows buildup rates for an illustrative Persian-Gulf scenario in which US forces are lifted into Saudi Arabia, and Soviet forces are lifted into Iraq. The figure is based on a number of very important assumptions, including: that there is no other conflict in progress; that neither side interdicts the forces of the other; that the Soviets do not move overland through Iran; and that both sides: (1) begin operations at the same time using a combination of airlift and sealift; (2) bring in a balanced combination of forces (and support) including light infantry, mechanized or armored units, and tacair; and (3) make use of all appropriate airlift assets (including CRAF Stage 3 for the US). The figure ignores potential limitations such as inadequate POL storage at enroute bases, inefficiencies at crowded bases, and initial delays in the implementation of CRAF plans. As a result, the figure presents upper-bound buildup rates for both sides.



US AND SOVIET BUILDUP OF GROUND FORCES (AND SUPPORT) IN THE PERSIAN GULF (U)

(Assumes Soviets Do Not Bring Ground Forces Through Iran)



(8) The principal conclusions from our illustrative analysis of airlift and sealift capabilities are:

 During the first 30 days of crisis in the Persian Gulf, the US would probably be able to project by air and sea more and more powerful ground forces than would the Soviets, now and in 1985.

Further, during the same 30-day period, the US would project 4 Air-Force and 2 Navy tacair wings (432 aircraft), by contrast with the Soviets who would project only about 2 tacair divisions (272 aircraft). Because the US would have air superiority, the Soviets would need tacair support such as SAMs.

Only after sealift began to arrive could the Soviets begin to enjoy more fully the benefits of proximity.

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- Soviet sea lift capabilities would be sensitive to the availability of the Turkish straits. and either the Suez canal or a land route through Syria.
- US naval forces would be far more capable than their Soviet counterparts.
- Soviet LOCs are potentially very vulnerable.

(5) These conclusions suggest an overall US advantage in air- and seadift capability, and convey a different impression than studies that focus on abstract hardware-limited "capabilities." Such studies tend to overestimate Soviet operational capabilities, utilization rates, and willingness to deploy vulnerable and unsupported forces. On the other hand, comparing US and Soviet projection capabilities in the abstract has its own dangers and it is important to post some caveats:

- The role of Iraq is critical: in scenarios such as Iraq plus Soviet projection forces against Saudi Arabia plus US projection forces, overall force ratios would be very unfavorable to the US.
- If we had simultaneous crises in Europe and the Persian Gulf, our buildup in the latter region would be delayed for at least 1 1/2 - 2 weeks at a point where time could be critical.
- Under certain circumstances (probably including a Soviet judgement that the US would not rest ond), the Soviets might be willing to move their airborne divisions without much support. If so, they could move about 6 such divisions (about 3 Armored Division Equivalents) in about 2-3 weeks; the US could not match this type of deployment, particularly if the two fides used only military airlift, and particularly if the Soviets had a head start because of US failure to act on early indicators.
- The Soviets could benefit greatly if they could preposition tacair and tacair support such as S.Ws, cr if they could move overland through Iran (al :hough the principal effect of the overland access night be after the first month).
- The analysis exaggerates the probable real-world speed of buildups (for both sides). Thus, the build-up times quoted should not be used in other contexts.

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Recommendations (U)

(5) Realistic projection capabilities depend sensitively upon a plethora of details that must be addressed in prior planning and exercises. At present, US projection capabilities relative to those of the Soviets for Persian Gulf scenarios in which Iraq is not an opponent may be adequate from the standpoint of equipment, but we should move as feasible toward:

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 pre-positioning equipment and consumables in the Persian Gulf or Middle East (including Egypt and Israel) if we can do so without unduly jeopardizing NATO capabilities

DECLASSIFIED AUTHORITY ED 1295 creating adequate POL stocks at enroute air bases

improving the capability of US contingency forces to operate effectively in the climates of the Persian Gulf

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Chief, Declass Bi Dir. & Rec. Div. WHS improving the infrastructure and liaisons essential to efficient rapid buildups of strength

maintaining or improving US and allied threats to Soviet LOCs

assuring or improving our access to enroute bases, especially in Spain, Lajes and Israel, and our ability to use equipment from NATO bases.

increasing the visibility of US presence and commitments (including options for year-round carrier presence and exercises to show projection capability).

The first point could be especially important as a hedge against simultaneous wars, difficulties in implementing CRAF and a Soviet head-start in crisis; it could be critical in conflicts involving Iraq.

V. SOVIET INVASION OF IRAN (U)

A. THE THREAT (U)

(U) The prospect of a Soviet invasion of Iran is in some ways analogous to the prospect of a Soviet attack on NATO: the invasion is not probable at present, but it would be extremely serious to US interests should it occur. The problem is not merely preserving Iran's independence, but the fact that if the Soviet Union held a strong position on the Persian Gulf, it could threaten the oil supply of the Western world and cause major realignments, regionally and worldwide.

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(U) The Soviets might invade Iran in order to seize a historical opportunity such as civil chaos in Iran to alter suddenly the worldwide balance. Alternatively, they might create a Persian-Gulf crisis to divert the West if there were a crisis between NATO and the Warsa⁻ Pact, or between the Soviet Union and China.

The Iranian revolution has probably increased the likelinood of a Soviet invasion (although the probability is still low in absoluteterms): the risk to the Soviets has been lowered since Iran's military is in disarray and Iran is no longer working closely with the US. Moreover, if civil war erupts as a result of separatist movements or in response to an increasingly reactionary Islamic government, the Soviets might intervene under guise of a "peacekeeper" or to support a radical political faction.

B. SCENARIOS (U)

(8) In principle, the Soviets could invade Iran in two ways: with blitz tactics designed to bring about a sudden collepse of the defense and the Iranian government, or by mounting a more deliberate and conventional invasion. Soviet doctrine and practices, including their tactics in the 1941 invasion of Iran and the 1945 invasion of Manchuria, indicate that they would strongly prefer the former approach. Such an invasion could involve: (1) quick seizure of mountain barriers; (2) disruption in major cities; (3) early use of airborne forces to capture major airbases and C³ centers (and possibly strategic points along the Persian Gulf itself--e.g., Bandar Abbas); and (4) a concerted effort to move forces through the mountains quickly in order to establish LOCs with the advance forces.

A sudden seizure of Iran would be the wor: t case from the US point of view, primarily because even if there were an Iranian request for assistance from the US, the operation might be nearly complete before the US could respond in force. If unimpeded, the Soviets could move about 15 armored division equivalents to Tehran within 45 days. With this and the some 700 aircraft they would have in the region (not including PVO air-defense aircraft), they would be in a very powerful position in northern Iran. It is less clear how qu'ckly they could mov: to the Gulf itself in strength, although they could emplace airbo ne forces there early if they doubted that the US coul mount an effective response.

C. POSSIBLE US STRATEGIES (U)

Although it is now clear that the Iranians will not soon be able to contribute effectively to their own defense, and that joint US-Iranian planning will be unlikely for some time, Iran's independence remains a matter of potentially vital interest to the US. In planning and programming for the defense of Iran, or of Iran's Persian Gulf coast, we must recognize the wide range of possible scenarios. The three principal and interrelated variables here are:

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Warning time: would the US be able to move forces into Iran well before the invasion began?

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_SECRET-2. Participation of Iranians and Allies: even a late Iranian decision to ask for help and allow us to use airfields and local transportation could be critical. Northern vs. southern defense: would we try to stop 3. the Soviets in the North or South? (5) We have not attempted to assess US strategies and force requirements in detail since the Iranian revolution occurred (and the pre-revolution analysis was controversial). However, our earlier study does justify the following conclusions: The Soviets do not yet have vital national interests in Iran (or the Persian Gulf), and deterrence may depend only upon making the risks and costs of adventurism high. Any ground defense of Iran must exploit the extremely mountainous terrain along the Soviet border or the similar terrain along the northwest-southeast diagonal. Unless the mountains can be exploited or substantial assistance can be obtained from allies, the Soviets will surely prevail easily because of their large advantage over us in ground forces (roughly 5:1 in ADEs even if they use only regional DEQLASSIFIED forces and allow us to bring in our contingency AUTHORITY EO 12958 force). APR 2 3 2003 In principle, a deterrent based on mountain defense should be feasible--especially if the objective is Cried!, Declass Br to guarantee delays and casualties for the attacker. Dir. & Rec. Div. WHS There are only 4 major roads from the Soviet Union into Iran, and all routes are highly vulnerable to demolition, interdiction with tacair, and/or blocking actions in which the defense can temporarily stand up against much larger forces, etc. Defense in the northern mountains would be strongly preferable, especially if the Iranians participated, and especially if hostilities had not yet begun. A southern defense might be the only feasible strategy for the US in some scenarios. However, the Persian Iranians might have little incentive to help if we abandoned the politically and historically important areas in the North. Furthermore, the Soviets might be able to cross the mountains in the northwest to enter Iraq, and with Iraqi assistance they could then move directly to the Persian Gulf readily. In some scenarios, it might be appropriate to use our airlift to build up quickly a very large tacair force, and to delay introduction of ground forces.

The Iranians could mount a substantial deterrent with a smaller and less sophisticated (less westernized) army than existed under the Shih. The principal ingredients would be light and mobile ground forces specially trained for defense in mountains.

The study examines the US ability to move forces into Iran, and concludes that:

US forces are neither trained nor equipped for effective operations in mountainous terrain (in Jran, Oman, or elsewhere).

DECLASSIFIED AUTHORITY ED 12955 The defender is at a <u>disadvantage</u> in mountain warfare unless his forces are used in ways very different from those applicable in a NATO/PACT conflict.

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- Obtaining substantial assistance from allies would be both reasonable to expect and critical for an Iranian scenario. Candidates include Turkey, Israel, Egypt, France, Britain and Australia.
- To prevail in an Iranian scenario we might have to threaten or make use of tactical nuclear weapons.

Recommendations (U)

(S) The Iranian scenario is in many respects a worst case, especially if it occurs simultaneously with a NATO/PACT conflict. It is not clear that we can expect to deal effectively with a Soviet invasion should it occur. However, because the demands for deterrence may be within our grasp, and because events in the region may well move in more favorable directions in the future, we should:

- -- Equip and train forces for mountain defense, emphasizing a combination of tacair; armored forces to block exits from mountains; and light infantry, Marines and altitudecapable helicopter forces for fluid warfare in the mountains themselves.
- -- Solve practical mobility problems (e.g., inadequate preplanning) to allow us to move forces to the Persian Gulf at a schedule limited by strategic lift assets. Table 1 illustrates a deployment that might be adequate if we had assistance of the Iranians and allies.
- -- Consider fundamentally different strategies for scenarios in which we do not have the warning time nor early assistance from allies to make defense in the mountains practical. Such strategies would probably entail early use of very large tacair contingents (e.g., 13 Air Force tacair wings, 2 carrier air wings, and 30 B-52s).



.SEGRET <u>Table 1-(Š</u>

ILLUSTRATIVE DEPLOYMENT OF U.S. FORCES TO JRAN a/ (U)

Initial Increment	Arrival Time	Mode	ADEs
4 TFW	M+7	Air	
82d Abn 1st Bde 2d Bde 3D Bde Combat support MAF 1st Bde Armored brigade MAF 2d Bde Air Cav Combat Bde MAF 3d Bde Combat Service support Mechanized division	5 8 9 9 11 16 19 21 29 39-48 40	Air Air Air & Sea Sea Air Sea Air Sea Sea Sea	.23 .23 .23 .10 .32 .27 .32 .30 .32 .30 .32 .82 <u>.82</u> 3.14
Follow-on Force <u>b</u> /			
MAF Infantry division Airmobile division Mechanized division	50 63-75 78-82 82-87	Sea Sea Sea Sea	.86 .60 .57 <u>.82</u> 2.85

Total

5.99

This deployment schedule optimistically assumes that the U.S. <u>a/</u> moves its for es, calls up reserve airlift crews, and activates Stage III CRAF, simultaneously with Soviet mobilization. It also assumes no problems of access, basing or hostile actions en route, and no delays in activating reserve support forces. The times quoted should be recarded not as best estimates, but as measures of potential capability. b/ Deployment of the follow-on force would impinge somewhat on

existing commitments to NATO.

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PREFACE: PURPOSE, SCOPE AND METHODOLOGY

(S) This study is an initial response to the December 3, 1977 SecDef fequest for an analysis of force requirements for contingencies outside Europe, with emphasis on the three areas examined in PD-18: The Middle East, Persian Gulf, and Korea. The study concentrates on the Persian Gulf because of its importance to the United States and its major allies, because Persian Gulf contingencies would probably be the most demanding on our resources, and because of the paucity of existing studies on this subject.

Purpose and Scope. The objectives of the overall study on the Fersian Gulf region are threefold: to assess the emerging threat environment, including the potential role of the Soviet Union; to analyze relevant capabilities of the United States and its allies; and to identify useful changes in the Defense Program. This paper, Part 1 of the overall study, addresses the first two issues, while Part II will address changes to the Defense Program. Part II should be completed by the end of 1979.

(U) The Baseline of Knowledge. There is no current consensus among the major industrial countries, let alone the local Middle Eastern powers, about the most likely and most serious threats to the region. Mutual suspicions and paranoia contribute to the lack of consensus among regional states. This may be changing as increased Soviet activity in Africa, the Arabian peninsula and Afghanistan reinforces tradional fears of Russian and Communist influence; but aside from the military operations in Oman, there has been little overt defense cooperation among the non-radical Gulf states.

(U) Our planning for the Persian Gulf must not only proceed without the kind of consensus that has slowly been achieved with our European allies, it must also deal with a much wider range of potential scenarios: indeed, we can not even be sure who will be the enemy of whom. Because of this, the present study examines a range of hypothetical but plausible contingencies without focusing on any particular one. Since shifts in alliances can take place quickly, we should base defense planning not on any particular scenario, but on the desire to be able to cope with the types of crisis that appear plausible and important.

(U) The Revolution in Iran. Most of this analysis was completed before the overthrow of the Shah of Iran in December 1978. Although the sections on Iran have been rewritten subsequently, it is not possible now to predict with any confidence what the future holds for Iran. It is clear that the revolution has had three serious consequences for U.S. policy: (1) Iran is no longer willing or able to play the role of a pro-Western regional balancer; (2) the recent civil chaos may encourage Soviet adventurism in Iran or, more likely, may give the Soviets the opportunity to gain influence in Iran by stimulating conflicts among the many ethnic groups there; and (3) Iraq is now the pre-eminent regional power.

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SECTION I THE STRATEGIC STAKES IN THE PERSIAN GULF (U)

A. U.S. AND ALLIED INTERESTS IN THE PERSIAN GHIF (11)

(U) The United States and its major industrial allies have a vital and growing stake in the physical security of the Persian Gulf region. This interest derives primarily, but not exclusively, from the importance of Persian Gulf oil supplies. Although some industrial countries, e.g., Britain and Norway, may be able to diminish or eliminate their dependence upon this oil, the interdependence of the western economic system means that no country or group of countries could successfully insulate itself from the adverse economic and political effects that would occur if the Gulf oil flow were abruptly curtailed.

DECD demand for oil is projected to be about 53 million barrels per day (MB/D) by 1985. Imports will constitute 35 MB/D of this total, of which 22.5 MB/D will have to come from the Persian Gulf. (See Table 1.) This estimate, like all others in the energy field, is based upon certain assumptions about growth rates and unemployment that could change.

Table I-1 (5)

	Þ.G. Imports MB/D	1977 % of Total Imports	≿ of Total Demand	Þ.G. Imports MB/D	1985 % of Total Imports	% of Total Demand
U.S. & Canada	3.3	35%	16#	6.5	60%	29%
Western Europe	8.0	61%	56%	10.0	70%	53%
Japan	3.9	71%	70%	6.0	69%	68%
	15.2	54%	38%	22.5	67#	45%

1977 AND 1985 OECD PERSIAN GULF OIL DEMANDS (U)

(8) There is no certainty that major oil exporters will be willing or able to meet the 35 MB/D demand in 1985. Worldwide oil shortages in the early 1980s have been predicted under some conditions by the CIA and other forecasting agencies. If this occurs, it could mean higher oil prices, reduced economic activity and increased unemployment resulting in reduced oil demands. Other forecasters are more optimistic in their assessments, citing slowing OECD economic growth, more successful fuel conservation and substitution efforts and anticipated new oil finds --particularly in third world countries--as the harbinger of balanced supply-demand functions throughout the 1980s. It is important to note that even optimistic changes on the margin, which could have a significant impact on future oil prices, will not quickly change the share of Persian Gulf production in the overall supply. New and as yet unidentified oil finds, even if they appear, will take time to develop. Thus, at



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least through the 1980s, the strategic importance of Persian Gulf oil to the West will not significantly diminish, although it may not grow as much as the figures in Table 1 suggest.

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(U) While a total cut-off of this oil would clearly be disastrous, it is important to note that there are different types and levels of threats to oil supplies--each of which has different implications for the West. These threats differ both in their seriousness and in the role, if any, that military force may play in deterring or preventing them. These differences count in weighing the potential value of U.S. military capabilities for Persian Gulf contingencies. For example, it would be wrong to say that the United States cannot afford any interruption in the vital flow of oil from the Persian Gulf. Interruptions that are only temporary or partial may not affect vital interests; moreover, military force may be able to do nothing to prevent them. would be equally wrong to say that security of Persian Gulf oil supplies is not a military problem because even a total cut-off of Gulf oil would not affect the first few months of a NATO war. If the Soviets controlled the oil production of the Persian Gulf, they would have an instrument of pressure that could bring about the collapse of NATO without a war.

(S) First, a distinction must be made between the peacetime economic effects of oil embargoes, a slowdown or price hikes, and the wartime implication of oil shortages for war production and military operations:

- -- Military fuel requirements in both war and peace constitute a very small proportion of total demand (NATO wartime needs are estimated at 2.2 MB/D). It is believed that the demand for military fuel in wartime could be adequately met under almost any combination of cut-offs if proper priorities were established.
- -- NATO's industrial mobilization potential. An important deterrent to Soviet aggressive action is probably the belief that NATO's superior economic resources would spell ultimate defeat for the Soviets unless they could achieve decisive results quickly. If the Soviets thought that they could deny us access to Persian Gulf oil, the deterrent effect of U.S. and allied economic advantages would diminish. This could increase Soviet willingness to undertake probes of NATO weaknesses, to attempt to pressure NATO with a massive force mobilization, or even to launch a major attack.
- The peacetime effects of a severe oil disruption could be quite substantial, aithough there might be no direct effect on military capability. By a conservative estimate, perhaps 20% of the GNP of OECD countries would be lost if all Persian Gulf production were cut off, and a sudden drop in GNP of this magnitude could produce economic and political chaos. However, smaller interruptions for short periods of time might be absorbed with little noticeable impact.

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(U) A second distinction must be made between temporary and prolonged oil cutoffs. Under International Energy Association (IEA) rules, each member country must maintain 70 days of oil stocks based on net imports in the previous calendar year. This will increase automatically to 90 days by 1 January 1980. The U.S. is working toward a Strategic Petroleum Reserve (SPR) of one billion barrels that is supposed to be in place by 1984-1985. Japan has recently decided to speed up its strategic oil stockpiling program and, by 1985, should have 100 days reserve on hand.

(U) A major difficulty in estimating usable stockpile levels is the determination of the number of days of consumption tied up in working stocks. Accurate estimates of the quantity of petroleum crude and products needed for refining feedstocks and to fill the transportation networks are not available. Estimates run from a low of 20-25 days in the U.S. to 40-45 days in Western Europe. An overall average of about 30 days is probably reasonable. Thus, temporary supply interruptions could be absorbed by stockpiles, particularly if only a portion of the supply were lost or if there were accompanying consumption cutbacks.

(U) A third important distinction must be made between the denial of Persian Gulf oil and the direct or indirect control of Persian Gulf oil by an adversary. <u>Denial</u> of oil would immediately force the oil consumers to adopt stringent conservation measures and institute new, far-reaching policies to prevent a collapse of the Western economic system. <u>Control</u> of oil by hostile powers, and particularly the Soviet Union, would not necessarily mean denial but rather <u>potential denial</u>, placing the oil consumers at the mercy of governments with aims hostile to U.S. interests. In the extreme case of Soviet control of Gulf oil, it is doubtful whether U.S. alliances with NATO and Japan could survive.

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(U) Finally, there is a difference between direct and indirect control. The problem of direct Soviet control over oil resources still seems remote; the problem of indirect influence may already be with us. To the degree that the Soviet Union or Soviet clients can threaten the security of Saudi Arabia or other vulnerable oil producers, it acquires some influence over their production and pricing policies. How that influence can be used, and in what cirsumstances, will depend partly on which countries are involved. Soviet influence over an Iranian or Iraqi government hostile to Saudi Arabia would obviously have more effect than their present influence over South Yemen's ability to foment guerrilla wars in North Yemen, Oman, or Saudi Arabia itself.

(U) Not only do the various potential threats to U.S. interests differ in their importance, they also differ in the degree to which they can be countered by military means. Perhaps the most important point is that military means can do little to prevent countries from reducing or restricting their own oil production, since the use of military force to break an embargo or production cutback would run a high risk of causing a much larger interruption in the oil flow. Moreover, as long as the major oil producers have an interest in

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maintaining their own oil revenues, production cutbacks are not likely to be prolonged. (Iraq and Libya, two of the most radical Arab states, were among the least loyal participants in the Arab oil embargo in 1973.)

(U) On the other hand, U.S. military capabilities can be important in providing the security that Saudi Arabia and other countries need in order to follow their own interests. Without effective protection, the weaker producers could be forced to take decisions that favor the economic and political interests of their stronger neighbors--some of whom might be pleased to reduce Saudi production in order to raise the price of their own oil.

(U) In addition to the oil question, the Persian Gulf nations are of intrinsic strategic value to the West because of their independence which denies the Soviet Union a land corridor to the Indian Ocean. If the Soviet Union acquired direct access to the Indian Ocean by controlling, occupying or annexing parts of Iran, Afghanistan, and Pakistan, its potential for projecting power throughout Asia and Africa would be greatly enhanced. This could pose serious threats to U.S. interests even if the importance other region's oil were to decline.

E. SOVIET OBJECTIVES AND CONCERNS IN THE PERSIAN GULF (U)

(U) Today Soviet political, economic and military objectives in the Persian Gulf region can only be guessed at and may not be either consistent with each other or restricted to the specific geographical area of the Gulf. Undoubtedly a combination of opportunism, historical territorial ambitions, ideology, and economics in practice determines particular Soviet initiatives or responses to events in the area. To this extent it is unlikely that there is consensus among the Soviet leadership as to the regime's Persian Gulf policies. Soviet leaders who worry about economic affairs may see the Persian Gulf as an important source to meet future Soviet oil needs and as a hard currency export market for Soviet arms. Those whose interests are primarily ideological might well see enormous advantages in gaining suzerainty over the Persian Gulf. On the other hand, some political advisors might point to the poor Soviet record throughout the Middle East and Africa and the danger of meddling in an area of vital importance to the West.

(U) Much Soviet motivation may be defensive in origin, but not necessarily less dangerous for being so. While they no longer have to fear any serious threats from within the region, they may view an expanding position in the Persian Gulf as a way to strengthen their hand against China. They are also sensitive to the hatreds that past attacks on Turkey and Iran have aroused--as Khrushchev himself acknowledged-and fear the possibility that those countries might some day serve as bases for attacks on the Soviet Union.

(U) There is no reason to assume the Soviet Union has a ready-made blueprint for the annexation of the Persian Gulf. Nevertheless, the possibility exists that under certain circumstances the Soviet leadership might be tempted to escalate its military activity in the region. It



can be argued that given the inherent caution of at least the present Soviet leadership, it would be tempted to undertake such an escalation only if: (a) it were convinced a general war with the West was inevitable; (b) it faced a crisis in East Europe or with China and needed some way to create a diversion for the western nations; or (c) some wild-card event occurred, such as a radical coup in Iran or Saudi Arabia, giving the Soviet Union a once-in-a-lifetime opportunity to strategically outmaneuver the West.

(U) Some argue that because the Soviet Union has higher military priorities in the European and China theaters, its leaders would be unwilling to risk a military confrontation in the Gulf area. However, in circumstances where a war with the West seemed likely, a Soviet invasion of the Persian Gulf might seem less risky than a direct attack on NATO and yet might promise a fundamental change in the balance of power. If the Soviets were to attempt to seize Persian Gulf oil supplies, we would be faced with a choice of expanding the war or dealing with the Soviets in the Persian Gulf alone. Since our nonnuclear options in Europe and elsewhere are sharply limited, we might be forced to accept the challenge in the Fersian Gulf. We should try to make sure that the Soviets have no reasonable grounds to think that the risks of a Persian Gulf war can be undertaken lightly.

(U) Other, less dramatic objectives of Soviet foreign policy in the Gulf would be to undercut U.S. presence and influence in the area. Ideally, the Soviets would like the countries south of their border to be friendly and responsive to Soviet preferences and assume for itself the former British role of protector and arbiter. They would also undoubtedly like greater access to Persian Gulf oil and a parallel increase in investment of Persian Gulf capital in the Soviet Union. They would also like to establish military support facilities in the region and deny the U.S. comparable rights. Short of military intervention, they would like to create a presence and degree of influence in the Persian Gulf so that Europe and Japan perceived a Soviet potential--politically and militarily--to influence oil supplies.

C. HISTORICAL DIGRESSION: GREAT POWER RIVALRY IN PERSIA (U)

(U) Although defense planners do not normally concern themselves with history, a brief synopsis of the long history of great power rivalry in the region is useful because:

 This history is still alive in the consciousness of many Iranians, and perhaps also for some Russian decisionmakers;

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Historical experience--particularly the Anglo-Russian invasion of Iran in 1941 and the British plans for the defense of the Gulf -- is the only source of empirical data on large-scale military operations in that part of the world.

The reader who is impatient with history is urged to read section C-4 on British and Russian operations in Iran during World War 11.

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1. Prior to World War I (U)

(U) From the earliest times the Persian Gulf region has had great strategic importance to the powers of the day because of its geographical position. During the twentieth century Persian Gulf oil added a new and global dimension to the strategic equation. Although the United States has only recently assumed a primary strategic interest in the Gulf, Russian and British military activity in the region goes back hundreds of years.

(U) During the nineteenth century Russian leaders displayed great interest in the regions to their south. This was a period of major expansion of the Russian Empire in the Caucasus and in Central Asia. As can be seen in Figures 1A and 1B, many Russian annexations took place fairly late in the nineteenth century. Several were at the expense of Persia. After the Russian capture of Khiva in 1873, the Russians declared the whole region north of Persia to be under their control. The Shah was prepared to dispute sovereignty over northern Turkoman with British support, but the British were unwilling to provide it.

(U) However, Russian expansion to the south inevitably created problems for Britain, whose leaders regarded such activity as a threat to British power in India and the Middle East. Russian leaders realized that they could threaten India merely by posturing along their borders with Persia and Agfhanistan. Britain regarded these two countries as vital buffer states and was particularly worried by Russian ambitions in Persia. For example, the following quotations from Lord Curzon, later to become Viceroy of India, were written in the 1880s and reflect the particular "hard line" which those who were suspicious of Russian motives held during this period:

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Chief. Declass B: Dir. & Rec. Div. WHS Russia regards Persia as a power that may temporarily be tolerated, that may require sometimes to be honored or carressed, but that in the long run is irretrievably doomed... It would be safe to assert that no Russian statesman or officer of the general staff would pen a report upon Russian policy towards Persia... that did not involve as a major premise the Russian annexation of the provinces of Azerbaijan, Gilan, Mazanderan, and Khorasan.

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But Russia's appetite for territorial aggrandisement does not stop here. She... yearns for an outlet upon the Persian Gulf and in the Indian Ocean ... a design to shake the influence of Great Britain in South Persia, to dispute the control of the Indian seas and to secure the long sought base for naval operation in the east. This can be accomplished in either of two directions--by a war with Turkey and the capture of Baghdad, or by a semi-peaceful advance through Persia to the Gulf. Of these processes the second is the more hopeful and the less risk...

During the nineteenth century, when British imperial (U) power was at its peak, British strategy was to oppose Russian ambitions in the south and, if necessary, use force to do so. However, the trauma of the Boer War (1899-1903) meant the end of "splendid isolation" and the search for new diplomatic accommodations with former enemies such as Russia and France. British vulnerability during the Boer War was correctly perceived by Russia. Thus, Czar Nicholas 11 wrote to his sister on October 21, 1899:

> You know, my dear, that I am not proud, but it is nevertheless, pleasant to think that it is entirely up to me to decide the ultimate course of the war in South Africa. The reason is very simple: all 1 need do is to telegraph orders to all the troops in Turkestan to mobilize and advance to the border. That is all: No fleet in the world, however strong, can prevent us from striking at England at her most vulnerable point. But the time for this is not yet ripe: we are not yet sufficiently prepared for serious action, chiefly because Turkestan is not yet connected with the interior of Russia by an unbroken railway line. I have let myself go, but you will understand that there are times when one's innermost yearnings thrust themselves into the light of day and when one cannot resist putting them into words.

The need to seek accommodation with Russia over Persia (U) was enhanced by the extensive influence Russia already had acquired in the northern part of the country. When Curzon asked one of the Shah's ministers what had impressed him most about England and about Europe during his travels there, the minister replied: "The number of the great industrial towns" in the first, and "the number of Russian soldiers" in the second. After a visit to St. Petersburg in 1878, the Shah brought back General Kosagovsky to organize a Persian Cossack Brigade that was to be one of the main arms of Russian influence in Persia for 40 years. Since Russia could not afford to build railways for its own purposes in Persia, a promise was extracted from the Shah in 1890 that no one else would be allowed to construct them, so that there were no railroads in Persia in 1914 when World War I began. During the 1890s,



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FIGURE 1A

RUSSIAN ADVANCES IN CENTRAL ASIA



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FIGURE 1B

RUSSIAN EXPANSION IN THE CAUCASUS: 1762-1864



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rumors abounded of Russian efforts to get a port at Bandar Abbas, and the Russian naval presence in the area in 1900-1901 far exceeded Britain's. "The independence of Persia," said Britain's foreign minister Edward Grey, "is a phrase."

(U) Since there was no serious British hope of stopping Russia in north or even central Persia, Curzon, who had now become viceroy of India, wanted to partition Persia to secure the essential southeastern regions. The partition of Persia was an essential element of the Anglo-Russian Entente in 1907. Persia was divided into three spheres: Russian down to Isfahan and Yazd, British in Baluchistan, and a neutral sphere in between including the Gulf shore. (See Figure 2.) Anglo-Russian relations were strained almost immediately, however, when the Russians supported the Shah in dissolving the Parliament and suppressing a revolution (from which much of present-day Shiite hostility to the monarchy dates).

(0) The discovery of major oil sources in Persia and Iraq at this period further increased the area's importance to Britain and the need to avoid conflict with Russia. An immediate reason for this was the decision in 1911 by Winston Churchill and the Admiralty to switch from coal to oil as the primary fuel for the new generations of warships entering service with the Royal Navy. While Britain had unlimited sources of good coal and was in many ways the Saudi Arabia of coal in the early twentieth century, she had no indigenous oil sources. The three major oil producers prior to World War 1 were, in order, the United States, Russia and Mexico. Britain's reluctance to depend on these suppliers accelerated British efforts to seek secure access to the underdeveloped oil fields of Mesopotamia (Iraq) and Persia. Thus, by the outset of World War I, geography and oil were emerging as point reasons for concern about the security of the Persian Gulf region. By now Russia also had a major interest in stability in Persia since its own oil fields nearby at Baku were becoming increasingly important and potentially vulnerable to attack from Turkey.

2. World War I (U)

(U) In May 1914 the Royal Navy concluded a contract with the Anglo-Persian Oil Company for the supply of oil to British ships. Hopes that this would be followed by a rapid expansion of Persian oil fields and the refinery at Abadan were replaced by fears of a Turkish attack upon British oil. The Turks were based in Basra and Baghdad and one of their first efforts when war broke out was to attack the oil pipeline from the oil fields in the Zagros hills to Abadan. In parallel to the British effort to protect the oil in the southwest, Russia decided to occupy Azerbaijan to protect Baku from a Turkish attack.

(U) There was a considerable amount of fighting in Northern Persian during the war. At various times Turkey, Russia and Britain occupied northern cities, Turkey having invaded Persia in 1915 and 1916. Between 1914-17 Britain and Russia cooperated to fight Turkey. All the external powers made use of dissident minorities in Persia and Caucasia to help their causes. Many of the pro-Turkish factions were well equipped with German arms and some had German officers attached to


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FIGURE 2

THE PARTITION OF PERSIA: 1907



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them. In 1917, a small British force under Major General Dunsterville of the Indian army was given orders to march from Qazvin to Baku to help the Russians who were threatened by both Turkish and German forces. However, the Manjil Pass on the Qazvin-Enzeli road was held by 3,000 to 4,000 Janoali irregulars under the command of a German major. Dunsterville was able to break through the pass with a force of 1,200 Cossacks, 4 horse-drawn guns, one squadron of hussars and a few armored cars.

(U) After the revolution in 1917, Russian forces were withdrawn, and Britain assumed responsibility for the protection of northern Iran. This eventually came to involve military support for White Russian forces in the Caucasus and the use of British naval forces against the Red Navy in the Caspian. On May 21, 1919, a British flotilla defeated a Bolshevik naval force at the battle of Alexandrovsk.

3. Between the World Wars (U)

(U) With the withdrawal of the British intervention forces and the collapse of White resistance in Southern Russian, Bolshevik forces moved into northern Iran, initially setting up people's republics in some of the northern provinces. In 1921, Reza Khan, the commander of the Persian Cossacks and the father of the present Shah of Iran, seized power in support of Parliament's refusal to ratify the Anglo-Persian Treaty of 1919, and declared himself the new Shah. Like his contemporary, Ataturk, Reza Shah signed a "Friendship Treaty" with the Soviets. Under the terms of this 1921 treaty, the Soviet Union renounced all claims on Persian territory and in return won the right to intervene if Persia should be used by outside countries as a base for attacking Russia.

(U) Throughout the 1930s, Britain regarded the Middle East as essential for the survival of the Empire. Oil from Egypt, Iraq and Iran was by now a vital component of the British economy for both peace and wartime conditions; control of the key access routes in the Middle East (Suez and the Persian Gulf) was essential for the protection of India, which could be threatened either by an attack on Egypt or upon Iran/Iraq.

(U) The legacy of World War II put Britain in a good position to meet potential threats to its Middle Eastern interests. British troops occupied Palestine and Iraq under the League of Nations mandate. In 1930 a treaty was signed with Iraq giving the latter independence but guaranteeing Britain military bases and the legal rights to intervene to protect its economic interests in the even of crisis.

4. World War II and its Aftermath (U)

(U) Immediately preceding World War II, the signing of the Nazi-Soviet Pact raised once more the possibility of Russian threats to Iran. The Nazi-Soviet Pact of 1939 contained a secret protocol



between Germany, Japan, Italy, and the USSR. Regarding Soviet ambitions, Protocol #1 states:

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"The Soviet Union declares that its territorial aspirations center south of the national territory of the Soviet Union in the direction of the Indian Ocean."

Before the German invasion of Russia in June 1941, British and French interest in curbing the flow of Soviet oil from the Caucasus to Germany heightened Soviet concerns about the British presence in Iraq and the French presence in Syria. (At one point General Weygand proposed bombing Soviet oil facilities at Baku and Batum from air bases in Syria.)

(U) In the early days of World War 11, the fortunes of the British ping-ponged as they first defeated the Italians in North Africa and Abyssinia and then had to face the challenge of Rommel's Afrika Korps and the fall of Yugoslavia, Greece and Crete. In the wake of Mediterranean defeats a new disaster loomed as the pro-British regent in Iraq, Prince Abdul Illah, was deposed in a coup d'etat assisted by wellorganized underground German agents operating throughout the Middle East. In response to this threat, Britain landed an expeditionary force, predominantly Indjan, in Iraq at Basra in the Gulf and sent troops in from the north from Palestine. A month later Britain sent forces into Syria to defeat the Vichy French and German agents. After some fairly intense fighting south of Habbaniya, the Iraqi insurgents sued for peace, and the regent was returned to power.

(U) In parallel to these events Rommel's troops had penetrated Egypt and held the vital Halfaya pass, thereby threatening Egypt and isolating the British garrison at Tobruk in Libya. By the summer of 1941, although Britain and Germany faced each other in the west along the North African littoral and Rommel's forces posed a threat to Suez, the Middle East flanks in the north and east were relatively secure following the military operations in Iraq and Syria. The German invasion of Russia in June 1941 changed all this. Although the German advance into Russia meant less resources were available to assist Rommel's offensive into Egypt, the fears were now that the German armies would break through Southern Russia and occupy the Caucasus or Turkey, thereby setting the scene for an assault on Iran/Iraq.

a. The Anglo Invasion of Iran (U)

(U) With this fear in mind and the belief that Reza Shah was pro-German, Britain and the Soviet Union, who were now allies, jointly invaded Iran on August 25, 1941. The Anglo-Russian invasion was swift and effective. The Russians attacked across five points

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along the northern frontier with armored and infantry columns; their routes of entry were as follows (see also Figure 3):

Tiflis - Jolfa - Tabriz - Zanjan - Qazvin
Baku - Pahlavi - Rasht - Qazvin
Gorgan - Shahrud
Bajgiran - Mashhad
Sarakhs - Mashhad

The Russian advance was accompanied by aerial and naval bombardment of several northern cities including Tabriz, Bandar Pahlevi and Mashhad and Teheran.

(U)

The British attacked with two separate forces:

]. Bachdad - Khanagin - Kermanshah (General Slim).

 Basra - Abadan - Khoramshahr - Bandar Shapur (General Harvey).

(U) There was little determined opposition to either invasion force although the Iranians could probably have delayed Slim's advance if they had been prepared to fight at the Pai Tak pass. The road to Kermanshah from the Iraqi border rises steeply into the pass, and it is a formidable obstacle. As Slim put it, "It looked as if a handful of men could hold it against an army many times the size of mine." However, Slim discovered that Pai Tak could be bypassed using a rough track covering the escarpment some 20 miles further south. Slim decided to send his armored column by the track to outflank the Persian forces in the pass and to assault the pass itself with infantry. After overcoming some opposition they reached Shahabad, behind the Persian defense. Outmaneuvered, the Persian defenders abandoned their positions.

(U) The other British force under General Harvey moved into Abadan from Basra and swiftly occupied the refinery, the town and the ports of Korramshahr and Bandar-Shapur. They faced some opposition from the Iranian forces and suffered a few casualties.

(U) Of special interest is the Soviet attack on Khorasan province. On August 26, between 5:00-7:30 a.m., Soviet aircraft attacked Mashhad airport and barracks. Six aircraft were put out of action. The Iranian troops garrisoned in Mashhad were sent to the northwest along the road to Quchan since it was assumed that the Russians would advance along the Ashkhabad-Quchan road. Late that night the troops who had been sent to Quchan returned in panic, many changed into civilian clothes and fled to the south. The immediate reason was that by the time the troops had approached Quchan, the Russians were already there. Secondary reasons were poor leadership and the ingrained fear of the local conscripts of the raiders from the north. Many of the officers requisitioned the trucks and gasoline and drove south also.



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FIGURE 3

ANGLO-SOVIET INVASION OF IRAN: AUGUST 1941

The Middle East



(U) On August 29, Russian troops began to arrive in Mashhad. The interesting point is that they came from the east--from Sarakhs not Quchan--and hence the Iranians were taken completely by surprise. (Sarakhs is at the apex of two strategic roads, built by the Russians in the late nineteenth century, which connect with the railroad terminals at Kushka and Mary.)

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(U) Several important points can be noted in the 1941 experience:

- Access to the key strategic areas of Iran from the Soviet Union and Iraq is relatively easy if only disorganized or weak resistance is present. The Soviet Union has good lines of communication up to both the northwest and northeast borders and has command of the Caspian Sea. From the West, Iran is vulnerable along two major approaches from Iraq: along the main road from Baghdad to Kermanshah, and from Basra to the oil refineries and port facilities in and around Abadan.
- During the 1941 campaign, both Britain and the Soviet Union exploited these avenues of invasion very quickly. The Russian infantry forces, for instance, reached Mashhad from Sarakhs in three days.
- The morale of the Iranian forces in 1941 was very low, especially among those forces facing the Russians. The officer corps exercised poor leadership; the conscripts greatly feared the Russians, in part because of the heritage and culture of violence in the northern provinces. Ironically, the Iranians fought better against the British in 1941, even though they much preferred them as a potential occupying power.
- Considerable panic was caused among the civilian population of those Iranian cities that were briefly bombed by the Russians in 1941. This was especially apparent in Mashhad.
- British War Plans for the Defense of Northwestern Persia (1942)

(U) In the spring of 1942 Germany launched a major offensive along the Russian front with a main objective being the capture of the Caucasus oil fields. From the Caucasus the German forces would be in position to attack Turkey and Persia. At the same time -

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Oniet, Deciaes Br Dir, & Rec. Div, WHS Rommel's offensive in Libya was under way and the fall of Egypt to this Axis seemed a possibility. General Auchinleck, the Commander in Chief of the British Middle East force, feared that his forces would be so thinly spread through the huge Middle East theater that he would not be able to simultaneously regain the offensive in the Western Desert and hold Northern Persia.

(U) On the assumption he would not have to take the offensive in the Western Desert, Auchinleck drew up plans for the defense of Persia in the event that the Germans attacked from the Caucasus. The objective of course, was "to ensure the security of our bases, ports, oil supplies and refineries in Iraq and Persia."* It is worth setting out Auchinleck's plan to some detail in view of the fact that: (a) Britain had important priorities elsewhere in the Western Desert and the Far East, and (b) the objective in Persia was to secure Southern Iran and Iraq, against a German armored attack:

"Intention. Should an attack from the Caucasus develop, I intend from the start to stop the enemy as far forward as possible. The enemy will not in any event be allowed to establish himself south of the general line Pahlavi - Kasvin - Hamadan - Senna - Saqqez -Rowanduz Gorge. (See Figure 4.)

Method -- delay will be imposed on the enemy by:

- (a) Moving light forces with the <u>utmost speed</u> to the line of the River Araxes (Aras) between the Caspian Sea and the Turkish frontier with a view to ensuring <u>the</u> demolition of all the tridges over the river and to act as a screen to cover our concentration forward.
- (b) Covering, as long as possible, the aerodromes in the area Pahlavi - Tehran -Hamadan.
- (c) By thorough demolitions -- and by early evacuation of valuable war materials.
- (d) By holding positions in country unsuited to A.F.Vs astride his main lines of advance."

(Italics added.)

*GHQ, MEF. Operation Instruction #118, Operation in Persia, 19 May 1942 in Operations in the Middle East from 1 Novmeber 1941 to 15 August 1942.

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FIGURE 4

BRITISH PLAN FOR DEFENSE OF IRAN AGAINST GERMAN ATTACK, 1942



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(U) As a result of these orders, the following actions were to be taken:

"(a) Preparation and stocking of airfields.

- (b) Preparation of defenses along the Pahlavi -Kasvin - Hamadan - Senna - Saqqez -Rowanduz Gorge line to be ready for operations by -
 - 4 infantry divisions
 - 2 armored divisions
 -] mortar brigade group.
- (c) Selection, preparation and stocking of staging posts necessary for movement of formations into Persia.
- (d) Improvement of routes in Iraq and Persia for movement of tank transporters.
- .(e) Development of the route to India via Kerman for the movement of troops."

c. The U.S. Presence and the Persian Corridor (U)

(U) During World War II a significant U.S. presence was also established in Iran to manage the logistics of the "Persian Corridor" through which large quantities of lend-lease material was sent to Russia. At one point nearly 30,000 U.S. Army personnel were in Iran supervising the supply route and helping to train the Iranian gendarmerie.

d. The Crisis of 1946 (U)

(U) Iran was the focus of the first major crisis between the United States and the Soviet Union in the post-war period. Following the end of hostilities against Germany and Japan, Britain, the Soviet Union and the U.S. agreed to withdraw their forces from Iran by early March 1946. However, a communist-inspired rebellion in Azerbaijan in November 1945 was supported by Soviet troops still in the area. During the subsequent crisis some Soviet troops deployed as far south as Karaj, 30 miles from Teheran, in an effort to put pressure on the government of Iran.

(U) On December 12, 1945, the Communist Democratic Party, now in possession of Tabriz, declared the formation of an Autonomous Republic of Azerbaijan under the leadership of Jaafar Pishevari, and three days later a Kurdish People's Republic was proclaimed in Mahabad.

(U) As the agreed deadline for withdrawal of British, Soviet and U.S. troops approached, strong appeals were made by the Government of Iran to the United Nations, and the U.S. and Britain brought pressure to bear on the Soviet Union. Eventually Soviet forces

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withdrew from Iran (May 1946) and in December 1946 Iranian troops put down the rebellion in Azerbaijan. Some sources, including official Iranian sources, attribute this withdrawal to the effectiveness of U.S. pressures. On March 6 the U.S. sent a note to the Soviets stating that "The decision of the Soviet Government to retain Soviet troops in Iran beyond the period stipulated by the Tripartite Treaty has caused a situation to which the United States...cannot remain indifferent." But the Soviet Union continued to send new reinforcements to Iran beginning on March 8. According to President Truman, on March 21, he told Stalin to get out of Iran within six weeks or the United States would take action. On March 24, Moscow announced that all Soviet forces would be withdrawn within six weeks.

D. SOURCES OF STABILITY AND INSTABILITY IN THE PERSIAN GULF AND ARABIAN PENINSULA (U)

(U) Of all the regions of the world where major U.S. interests are at stake, probably none have so great a potential for conflict as the Persian Gulf-Arabian Peninsula area. The current upheaval in Iran is only the most recent instance. By a rough count there have been since 1950 22 coups, 8 assassinations of heads of state, 6 major internal wars, 3 international wars, and a number of large-scale civil disorders within and hetween the countries of that region, extending from Pakistan and Iran in the northeast to the two Yemens in the southwest (this does not count the wars between India and Pakistan or the involvement of Iraq and, to a lesser extent, Saudi Arabia, in Arab-Israeli wars).

(U) With so many international and internal disputes, it is in a way surprising that there have been rather few outbreaks of large-scale conventional warfare, and none among the three major Gulf countries--Iran, Iraq, and Saudi Arabia. This reflects the fact there are important stabilizing influences, not least of which has been outside military presence. British intervention in 1961 was probably essential in deterring a threatened Iraqi attack on Kuwait, as was U.S. intervention in 1963 against a threatened expansion of the Yemen war.

(U) There are many potential causes of instability in the Persian Gulf region: ideological rivalries, territorial disputes, the clash between modernizing trends and the forces of tradition, ancient ethnic and religious hatreds, and sheer personal ambition fed by the enormous wealth that is at the disposal of some very weak governments. Ideological rivalry may be one of the forces most threatening to U.S. interests. The radical Ba'athist ideology of Iraq and the radical socialist ideology of the PDRY stand in stark contrast to the Islamic orthodoxy and conservatism that characterize the Saudis and the crucial states. Although allegiances to individual leaders are important, rival ideologies mobilize support and arouse popular passions that threaten the legitimacy of the key moderate states. And they may shape the definition of national interests in a direction hostile to the U.S. and its allies.

(U) In addition to ideological rivalries and differences, irredentism and territorial claims are wide-spread. For example, North and South Yemen both desire to unify all of Yemen; Iraq has not renounced its claim over Kuwait (or at least its claims over the Kuwaiti islands

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of Bubiyan and Warbah); Arab claims about the "Arab character" of the small islands in the lower gulf (the Greater and Lesser Tung Islands and Abu Musa) have not diminished despite Iranian control of the islands.

(U) Yet another potential source of instability in the area is Arab vs Persian nationalism. Divided by language, culture, historical tradition and religious interpretations (i.e., Shia vs Sunni Moslem), there has never been a great affinity between the Persian and Arabs.

(U) Finally, although oil wealth has brought prosperity, it has also been a source of instability in places like lran--where the pace of modernization has upset the relationship between the cities and the countryside, created a new class of frustrated urban poor and produced a rising secularism that offends religious traditions. At the same time, oil wealth can also be a source of stability and moderation. (In the Arabian Peninsula, it has been used by nearly every ruler to buy off potential opponents.)

(U) In addition to oil wealth two other factors have contributed to regional stability. First, the perceived U.S. commitment to Saudi Arabia and Iran has enhanced stability. Iraq--the country most capable of undermining stability--must weigh the possibility that an attack on Iran, Saudi Arabia or even Kuwait could trigger a U.S. military response. Because the Iraqis do not believe that they can count on the Soviet Union, the perceived U.S. commitment acts as a moderating influence on Iraqi behavior. (Iraqi desires to pursue an independent policy also militate against excessive dependence on the Soviets.)

(U) A second factor that tends to moderate Iraqi behavior and thus foster stability in the area is the general configuration of power in the Persian Gulf and Middle East. Of the five main powers in the area--Iran, Turkey, Israel, Syria, and Egypt--three border directly on Iraq--while a fourth, Israel, is perceived by the Iraqis as highly dangerous. Before considering moves against Saudi Arabia or Kuwait, Iraq must weigh the responses of its neighbors. The overt threat of Iranian intervention (and the unstated, but perceived threat of U.S. intervention), is a particularly strong constraint on Iraqi moves against Saudi Arabia or Kuwait.

(U) In short, although there are sources of instability in the area, there are also potent forces that favor moderation and stability in the Fersian Gulf. Of the military factors, the perceived U.S. commitment and the geographic distribution of power tend to deter overt aggression against, or invasion of, neighboring states.

E. SOVIET MILITARY OPTIONS IN THE PERSIAN GULF (U)

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(U) Soviet objectives in the gulf will undoubtedly continue to reflect a mixture of insecurity and expansionism. Optimally, the Soviets would like the countries located in the general vicinity of their southern border to be friendly and responsive to Soviet preferences. Their precise actions will be determined not so much by these very fluid objectives but by a weighing of concrete risks and gains. However, the present stability and interlocking interests among major

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Gulf countries accommodate low grade residual rivalries and limit Moscow's room for maneuver. In the absence of a major domestic upheaval that alters the domestic outlook of one of the key Persian Gulf countries or a crisis elsewhere that raises significantly the risk that the Soviets might feel that they need to run. Soviet actions are more likely to resemble the "Semi-Peaceful advance" of their Tsarist predecessors than the riskier alternative of overt military invasion.

(5) However, the Soviet Union has and will continue to have the capability to conduct a wide variety of military operations in the Persian Gulf area. The spectrum of options open to the Soviet Union range from high-probability, low-risk actions such as arms sales and training programs to low-probability, high-risk actions that could include even an all-out invasion of the Gulf.

(S) 1. Arms sales and training programs to friendly Gulf countries; naval "presence" missions in Persian Gulf and Arabian Sea. This currently represents the main Soviet military effort in the Gulf region. Arms and training are sold or given to many countries--lraq, PDRY, Afghanistan, North Yemen, and even Kuwait and Iran.* Soviet naval presence in the Gulf area fluctuates from month to month but use has been made of the lraqi port of Umm Qasr. Through arms sales, training and presence missions, the Soviet Union can establish friendly relations with local powers and also demonstrate its potential as a regional power.

(5) 2. Military aid to political opposition groups or embattled regimes. This activity is less "benign" than arms sales and presence, yet falls within the context of "peacetime" activities. The level of Soviet involvement in this capacity has so far been slight. However, it does support the insurgents in the Dhofar province of Oman, the P.L.O. and could, at some point in the future, provide assistance to insurgent groups in Iran, such as the Baluchis. The Soviet Union also supports friendly regimes, such as Afghanistan and Iraq, in suppressing internal insurgencies.

(5) 3. Support for "Socialist Collective Security", i.e., client state intervention. Short of supplying its own forces, the Soviets could support military interventions by friendly client states. Apart from the East Europeans, whose utility in this role is somewhat limited by their obvious ties to the Soviet Union, only Cuba is today equipped to play this role effectively, and Cuban capabilities probably limit their influence largely to small-scale Persian Gulf conflicts.

(8) 4. Covert military intervention with Soviet forces in local Gulf conflicts. Although the Soviet Union has not, to the best of our knowledge, intervened with its own forces in Gulf conflicts in recent

*They have sold Frog missiles to Kuwait and ZSU-23s to Iran. In fact, there are more Soviet advisers in the Iranian Army than those of any other country except England.

years, it has intervened in the Horn of Africa and during the various Arab-Israeli wars, especially the War of Attrition 1969-70. Soviet "advisers" are operating in Afghanistan. Such a step in the Gulf would represent a serious escalation of involvement and would risk a major crisis with the United States.

5. Limited, overt military intervention in domestic conflicts. This step would involve the overt use of Soviet forces to assist a particular political group in a domestic crisis. The degree to which such activity would run the risk of stimulating a U.S. response would probably depend upon the country in question. Clearly, Soviet intervention to support dissidents in the Y.A.R., Iran or in Saudi Arabia would risk a major U.S.-Soviet crisis. Whether this would be the case in the event of Soviet intervention in Iraq or Afghanistan or P.D.R.Y. may be considered doubtful but it would still be a major escalatory step.

6. Militarv intervention in inter-state war. The Soviet Union could intervene with regular force in support of one side in an inter-state war. Short of an invasion of Iran, many such Soviet interventions could be presented as defenses of a client. Evan a mobilization of Soviet forces on the Iranian border in the context of a Gulf crisis could be presented as a defense of Iran's opponents. But Soviet actions to deter attacks on Iraq, for example, would make it easier for Iraq to attack other countries. In almost any case in the Gulf, but especially those involving Iran and Saudi Arabia, the United States would be under great pressure to counter such action with its own military forces, thereby raising the stakes of the confrontation.

7. Invasion of Iran. Although <u>any</u> invasion of Iran would be a most serious step, the greatest political significance would be attached to Soviet attempts to control Iran's oil fields or even worse, the Strait of Hormuz. An attack growing out of steps 4 or 5, and not aimed at oil <u>might</u> split the Western alliance and pose the U.S. with a serious dilemma as to whether and how it could intervene. On the other hand, Soviet action might be aimed only at northern Iran and only at supporting dissidents within Iran or countries at war with Iran. However, Soviet occupation of northern Iran could render southern Iran indefensible.

8. Invasion of the entire Gulf. A Soviet invasion of the entire Gulf would clearly be an act of war against NATO. However, the Soviets might still hope to limit the war, and in particular to avoid a war in Central Europe where Soviet actions might run too high a risk of nuclear war, but where NATO military options would be very limited.

This case might appear to be very different from the invasion of Iran alone, since Iran has only a fraction of total Gulf oil production. However, Soviet control of Iran would permit them to close the Strait of Hormuz. It would also make the defense of the southern Persian Gulf difficult if not impossible by: (a) severing the military SLOC into the Gulf; eliminating the major terrain obstacles that constrain Soviet exploitation of their quantitative advantages in ground forces; and (b) bringing key ports and oil facilities_ within range of Soviet tactical air powers.

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Actions during a global war. The Soviets would probably 9. undertake some military actions in the Persian Gulf area in the event of a NATO war, and perhaps also in the event of a Sino-Soviet war. In this case, the Soviets would be concerned not to use strategic resources that might be needed for higher priority missions elsewhere. (However, it is instructive to remember that the Soviets did commit limited forces to the invasion of Iran in August 1941, at a time when German forces were beginning to encircle Kiev and Leningrad.) At a minimum, the Soviets would want to extend their southern border as far as possible and destroy Persian Gulf oil facilities and shipping if they could do so cheaply. In a Sino-Soviet war the Soviets might want to improve their communications with India and Vietnam as well as the Soviet Far East. Even with limited forces, the Soviets might be able to occupy all or part of Iran or significantly reduce the flow of oil from the Gulf, if there were no U.S. or other outside opposition or if Iran did not resist effectively.

(S) There is obviously a range of possible Soviet actions, and most threatening also appear to be the least likely. What is perhaps most worth noting is that the distinction between "peace" and "crisis" and "crisis" and "war" are unclear, just as the distinction is unclear between actions that threaten vital U.S. and allied interests and actions that do not. It is precisely at these ambiguous points that the potential for Soviet miscalculation is highest and where the scope for Western political discord abounds.

F. MILITARY THREATS TO U.S. INTERESTS

(U) At least five important kinds of military threats to U.S. interests in the Gulf can be imagined:

 Establishment of Soviet military presence that could take place at the invitation of a local government and without any actual warfare. The seriousness of such a development would depend on the extent of the base and its location. For example, Soviet port visits in South Yemen would not be as serious as the basing of Soviet tactical air forces in lrag;

2. Civil wars and querrilla wars could become an instrument of outside pressure on regimes friendly to U.S. interests and could threaten the physical security of U.S. citizens in the area or of oil production;

3. Local wars involving nations in the region could also threaten the independence of local countries and the physical safety of U.S. citizens and oil productions. In addition, local wars would become the cause or pretext for Soviet intervention in the area;

4. Soviet invasion across its common border with Iran, even if not initially aimed at U.S. or NATO interests, would very quickly threaten the entire Gulf with Soviet military domination and with it the vitality of U.S. alliances and the access of the industralized world to oil;

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5. Attacks on oil facilities and SLOCs that could occur as part of the three preceding cases or as part of a global war with the Soviet Union.

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(5) This paper will discuss U.S. military capabilities for deterring or dealing with the last three of these threats. This is not to say that the first two may not be more likely. Nor can it be said that they are necessarily less important or necessarily less affected by U.S. military capabilities. An invited Soviet presence in Iran or Oman, were it to occur, could be more threatening than many possible wars. And the Cuban Missiles Crisis is dramatic evidence that U.S. military capabilities can determine the level of Soviet military presence in a country. These cases are more difficult to analyze because the range of possible circumstances varies so widely. Also, in the case of internal wars, it is less clear that U.S. forces could usefully play a direct role (although they would play an indirect role in supporting others, e.g., Iran in Oman.) However, in later work some attention should at least be given to the issue of what increases in Soviet presence are most threatening and what the U.S. can or should do to prevent them. The present study offers some insight into these questions, but no systematic analysis.

(U) It should be noted that the following sections analyze classes of threats, not specific scenarios. A major aim of this study has been to illuminate the importance of key assumptions, rather than working out in the greatest possible detail the consequences of a single set of assumptions. Thus, in analyzing attacks on oil facilities, we consider a range of possible threats, arising not just from the Soviet Union but from local countries as well, using lraq as a chief example. In analyzing local wars, we consider a range of possible conflicts and a variety of possible outside interventions.

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(U) Moreover, these threats are not mutually exclusive. For example, a Soviet invasion might well be accompanied by attacks on oil facilities. Or a local war might be aimed at putting a stop to a guerrilla war. However, each class of threat encompasses a different set of capabilities and may imply different kinds of U.S. and allied capabilities needed to counter them.

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DETERRING ATTACKS ON OIL SUPPLIES (U)

(U) Even if oil production and shipping facilities were not controlled by hostile forces, the continued flow of oil from the Persian Gulf could be threatened. Among the more likely threats would be: (1) destruction of the facilities themselves, (2) attacks on the tankers along the SLOCs between the Persian Gulf and the tankers' destinations, and (3) closing the Strait of Hormuz.

(B) Successful air attacks against the major oil terminal facilities could result in long-term disruption of large oil shipments. Three Persian Gulf facilities -- Ras Tanura, Khark Island, and Juaymah -- transship about 65 percent of the total Gulf production.

(5) Oil facility vulnerability to air attacks depends heavily on accuracy. With a 350 foot CEP, 500 Flogger sorties, each with 4 x 500 kg bombs, would have about a 33 percent probability of destroying the pumps critical to Khark Island or destroying about one-fourth of the Ras Tanura/ Juaymah production. The same number of Backfire sorties with a 350 foot CEP would have a 99 percent probability of destroying the Khark pumps or over 70 percent of the Ras Tanura/Juaymah capacity. A CEP of 1000 feet would increase the sortie requirements two to four times; conversely, the accuracy afforded by laser-guided bombs would permit 100 Flogger sorties. each with two LGBs, greater than 95 percent assurance of destroying all the pumps supporting Khark or over 50 percent of oil production from Ras Tanura/Juaymah.

(S) U.S. land-based or carrier air, as well as U.S. Hawk batteries, could contribute measurably to the protection of the oil facilities. Against lraqi air attacks, a single carrier battle group or as few as two squadrons of USAF aircraft, together with Iranian and Saudi air forces should be a credible defense to the oil facilities. The addition of Soviet forces, however, could require four wings of USAF fighters or two carrier battle groups to protect the oil facilities as well as to support ground forces defending against a combined Soviet/Iraqi attack.

(g) The analysis of tanker losses along the SLOC showed that both Soviet submarines and SNA could inflict losses. Under various assumptions, these losses ranged from 7 to 35 percent of the 1150 tankers normally engaged in the Persian Gulf trade -- representing as much as 13 days' oil supply for Europe with lesser impacts on U.S. and Japanese supplies. Furthermore, the analysis showed that convoying would not be a useful response because of escort, requirements and reduction in deliveries due to convoy inefficiencies.

(8) The conclusions of the SLOC analysis underscore the importance of access to airfields in the Indian Ocean region for ASW and counter-SNA operations. Equally important is denying the Soviets secure bases in the Indian Ocean. From such sanctuaries, the Soviets could not only increase the effectiveness of their submarines, but also harass our P-3s

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and bring more SNA to bear against the tankers or our naval forces. For instance, a submarine deployed from Aden could be expected to sink over 15 tankers before being lost, compared with 4.3 tankers for submarines from Vladivostok. Even more impressive, the Soviets could sink more than five times as many ships for each sub committed by using bases along the SLOC. In fact, the advantage would be further magnified by the constraints that would be placed on our P-3 operations by Soviet fighters, but this is not easily measured.

(6) The presence of SNA at overseas bases could be destabilizing. For instance, 15 ASM-equipped Badgers probably would be sufficient to deter the use of a single carrier against a land base unless we could be assured of surprise. However, the commitment of two carriers against a Soviet base away from the Persian Gulf would leave us little naval capability to respond to threats in that area. Thus, the addition of SNA to a base along the SLOC might tempt a pre-emptive attack on our part to keep the situation from getting out of hand.

(5) Soviet bases on the Indian Ocean would be on the end of a long Togistic pipeline. To get the full value of those bases, ASMs or torpedoes would either have to be pre-positioned or continuously resupplied. In the latter case, the Soviets' own LOC through the Eastern Mediterranean would be vulnerable. However, if U.S. withdrew from the Eastern Med in the early days of a war, if the situation in Iran or Turkey deteriorated further, or if our carrier forces are reduced, we may find that we have given the Soviets a secure LOC to the Indian Ocean by default.

(5) Our analysis showed that the Strait of Hormuz is not very vulnerable to long-term closure. The Strait could be covertly mined by submarines and present a low threat to passing tankers; and a surprise large-scale air attack would result in a high threat to the tankers. In either case some tankers would be damaged, and sailings would probably stop. However, the Strait could be swept and reopened in about two weeks, although minesweeping operations would have to continue in case of delayed arming on the mines.

(s) Our analyses showed a number of areas where action could be taken to improve the chances for success in dealing with the threats to the flow of Persian Gulf oil:

- The U.S. needs assurances from Persian Gulf and African littoral countries that bases would be available to support aircraft and communication facilities in the event of a threat to the oil SLOCs.

- Facilities on Diego Garcia should be improved to provide better support for operations in the Persian Gulf and Indian Ocean.

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- Saudi Arabia and Iran should be encouraged to harden critical oil production facilities against air and terrorist attacks. Minesweeping capabilities of the two countries should also be improved. Currently, only the U.S. could rapidly deploy minesweeping forces to sweep the Strait of Hormuz, and this would require 30 days effort by one-half of all U.S. minesweeping helicopters.

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- Efforts should be made to establish a stockpile of portable oil field equipment (or a frequently updated inventory of the location of such equipment) for use in emergency oil facility repairs.

- The U.S. should develop an emergency oil facility repair capability, perhaps by designating SEABEE battalions for this mission.

- Cooperative actions to protect oil supplies and SLOCs should be discussed with NATO countries, Japan and other interested nations.

(8) Section II-A summarizes our analysis of oil facility vulnerability to air attacks; Section II-B analyzes threats to the oil SLOCs; and Section II-C is an analysis of capabilities to mine and to clear mines from the Strait of Hormuz.

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OIL FACILITY VULNERABILITY TO AIR ATTACK (U)

1. Background (U)

Α.

Five terminal facilities -- Ras Tanura (SA), Khark Island (lran), Juaymah (SA), Ahmadi (Kuwait) and Das Island (Abu Khabi) -- now account for about 80 percent of all Gulf exports (almost 90% of non-Iraqi production). Two of these, Ras Tanura and Khark, account for over 50% of the flow (see Figure 1). By 1985, more than 70% of Gulf oil will still come from these five facilities.

The purpose of the analysis was to assess the vulnerability of the most important targets. It was determined that oil wells, pipelines, and storage tanks are not as important targets as some of the facilities needed to transship the oil. The analysis focused on the damage that could be done to these most critical targets by air-delivered ordnance. The analysis has not addressed other possible threats -- e.g., naval bombardment, airborne attacks, terrorist attacks -- or threats to less critical elements of the production system.

2. Threat Aircraft (U)

a. Soviet Union (U)

DIA estimates that the Soviet Union has and will continue to have about 120 tactical ground attack aircraft in the Transcaucasus and Turkestan Military Districts. Only their 35 Fencers have sufficient range to reach all major oil facilities in the Persian Gulf from bases in Southern Russia without refueling (see map in Figure 11-A-3). In addition, Long Range Aviation aircraft could contribute to attacks against Iran. The number of aircraft in the region could fairly easily be increased (although aircraft movements could signal Soviet intentions). The more important constraint on Soviet attacks on Persian Gulf facilities is likely to be the level of aircraft losses incurred in multiple sorties.

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-<u>Iable_11-A-1</u> SOVIET AIR ASSETS a/ (U)

	Transcaucasus		Turkestan .	
	1979	1985	1979	<u>1985</u>
Ground Attack				
Fitter C/D (Su-17) <u>b</u> /	45	45	-	-
Fencer (Su-24)	35	35		
Fishbed (MiG-21) <u>c</u> /	-	-	45	-
Flogger (M1G-2/) b/	-	-	-	45
Brewer B/L C/	- 20	80	- 45	45
iutai	80	60	40	45
Counterair				
Fishbed (MiG-21)	45	45	45	45
Flogger (MiG-23)	90	90	-	-
Total	135	135	45	45
			~~~~~	1005
		1979		1903
Long Range Aviation d/		•		
Bison B/C		24		-
Bear A/B/C		63		20
Backfire B		19		60
Badger A/c		70		70
Blinder A		17		40
New Long Range Bomber		103		190
lucai		122		

a/ Does not include 490 PVO Strany interceptors in the Baku and Tashkent Air Defense Districts.

b/ The LRA figures reflect only strike variants. These aircraft are based in the Kiev, North Caucasus, Volga, and Central Asia Military Districts.

- c/ Do not have sufficient range to reach Persian Gulf facilities without refueling.
- d/ Includes LRA based in the following Military Districts: Kiev, Odessa, North Caucasus, Transcaucasus, Turkestan, Siberia, Ural, Volga and Central Asia.

#### b. Iraq (U)

(2) According to DIA, the Iraqi Air Force has about 380 fighter attack aircraft, a total that is projected to reach about 440 by 1985, mainly through the addition of 50 Mirage Fls and modern Soviet fighters. Of these aircraft, DIA identified 144 of the current assets and 176 of those planned for 1985 as air defense fighters. In addition, Iraq has 21 bombers -- both Badgers and Blinders. The aircraft totals are summarized below:

	SECRET Table 11-A-2	
	IRAQ AIRCRAFT (U)	
	1977	1985
Ground Attack Hunter	16 57	0 88
Flogger E (MIG-23) Fitter C/D (Su-20) Mirage E-1	51 0	66 50
Total	124	204
Air Defense Fishbed (MiG-21)	128	140
Flogger B (MiG-23) Total	144	176
Attack Capable Training Fagot/Fresco (MiG-15/17)	35	0
Fishbed (MiG-21)	33	25
Fitter A (Su-7)	. 40	5
Total	114	63
Bomber Badger (Ju-16)	7	6
Blinder (Tu- 22)	14	14
Total	C 1	LU

### c. Range and Payloads (U)

None of the Soviet Frontal Aviation aircraft, except the Fencers, can reach all four oil production facilities from bases in the Soviet Union, and even the Fencers would not have sufficient range for significant evasive routing. All of the Iraqi fighters, except the Hunters, can reach the four major oil facilities from bases in Southern Iraq. The following table shows aircraft capable of reaching the facilities (although not all aircraft can reach the facilities from locations in the Soviet Union), together with payloads (hi-lo-hi missions for fighters and fighter bombers, and hi-hi-hi missions for LRA bombers.)

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#### Table 11-A-3

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### SOVIET AIRCRAFT RADIUS PAYLOAD (U)

#### Tactical Aviation a/

Туре	Payload	Radius _(nm)
Fishbed J (MiG-21) Fitter A (Su-7) Fresco/Fagot (MiG-15/17) Fitter C (Su-17) Fitter D (Su-17) Flogger B (MiG-23) Flogger D (MiG-27) Fencer A (Su-24)	2 x 250 kg 2 x 500 kg 2 x 250 kg 6 x 500 kg 6 x 500 kg 4 x 500 kg 4 x 500 kg 4 x AS-10 (Laser) 2 x AS-9 10 x 250 kg	390 295 100 485 530 615 625 1,075 935 980

#### Long Range Aviation b/

Bear A	$32 \times 500 \text{ kg}$	3 000
Bear B/C	1 x AS-3	3 750
Bison B/C	18 x 500 kg	2,700
Backfire B	4 x 3000 kg	2,700
Badger A	18 x 500 kg	2,000
Badger G	$2 \times 45-5$	1,300
Badger G	2 x AS-6	1,000
Blinder A		1,850
	10 X 300 Kg	1,500

 <u>a</u>/ Flight profile is Hi-Lo-Hi. Radius is computed with external fuel for all aircraft except FRESCO/FAGOT.
<u>b</u>/ Flight profile is Hi-Hi-Hi.

3. Taroet Areas (U)

Four specific target areas were examined: Khark, Ras fanura, Juaymah and Abqaiq. At Khark, DIA estimates that the greatest damage to the operation would result from destroying the three pump houses at nearby Gurreh. Using Soviet aircraft performance data, calculations were made for the probability of destruction for one pump house as a function of numbers of sorties and munitions used.

(5) Not surprisingly, the results depend heavily on accuracy. With projected accuracies of 350', the calculations showed that it would take up to 200 sorties of Fitter C or 100 sorties of Flogger B/D, carrying two and four 500 kg gravity bombs, respectively, to get a 50 percent probability of destroying a single pumphouse.* The same results could be obtained with 40 Backfire sorties with 350-foot CEPs. It would take 200 sorties of the larger payload but less accurate (1250' CEP) Bears to achieve the same result. With laser-guided bombs, only 4 sorties of

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#### Probable and Expected Loss of Oil From Air Attack a/

	% Loss a	nd Million Bar Gravity (350 ft/100	Bombs 0 ft CEP)	1055
	50	Number of	Sorties 500	1000
Khark (% Loss) <u>b</u> / Flogger Backfire	<1/<1 2/<1	5/<1 19/<1	34/<1 99/ 3	73/ 2 99/ 14
Ras Tanura/Jauymah (MB/D Loss) <u>⊆</u> / Flogger Backfire	0.3/0.1 1.1/0.3	0.6/0.1 2.1/0.6	2.6/0.6	4.2/1.2 8.6/3.9
	25	Laser Gu Number ( 50	ided Bombs of Sorties 100	200
Khark (% Loss) <u>b</u> /	44	84	97	99
Ras Tanura/Juaymah (MB/D Loss) <u>c</u> /	1.6	3.2	5.1	7.5

- a/ Flogger carriers 4 x 500 kg gravity bombs; Backfire 10 x 500 kg gravity bombs against Khark and 4 x 3000 kg bombs against Ras Tanura; 2 x 1000 kg LGBs per sortie, regardless of aircraft. CEP not considered for LGBs.
- b/ Percent probability of loss of <u>all three</u> Gurreh pumphouses, assumes one-third of sorties against each pumphouse; results in loss of 2.9 MB/D of 4.9 MB/D production.
- C/ Expected loss in MB/D; total output 9.4 MB/D. Because of their proximity, Ras Tanura and Juaymah are considered a single objective for air attack.

*Although there is no evidence supporting differing country capabilities, Iraqi pilots may not be able to achieve the bombing accuracy of their Soviet counterparts. The poorest accuracy that could be expected from attacks at altitudes of 2000 feet is a 1000 foot CEP. Compared to 350 feet, increasing the CEP to 1000 feet would mulitply by 2 to 4 times the number of sorties required to get equivalent expected results.

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Fencers each carrying 2 - 1000 kg laser-guided bombs (LGB) could achieve the same results if the LGBs accuracy is not degraded by smoke, operational constraints or other factors.*

(5) At Ras Tanura, DIA estimates that the destruction of 14 lifting pumps would prevent throughput of all the 8 MB/D of oil currently passing through the facility. The 14 pumps are clustered in 4 separate locations, each of which is effectively a single target. If all four target areas were attacked, it would take 1600 sorties of Fitter C or 800 sorties of Flogger B.carrying 2 and 4 - 500 kg bombs, respectively, to achieve an expected destruction of 50% of the 14 pumps. It would take 190 Backfire sorties, each carrying 4 - 3000 kg bombs, or 900 Bear sorties with 32 bombs to achieve the same damage. It would take 56 Fencer sorties, each with 2 - 1000 kg LGBs, to achieve a 50% probability of damage to each of the 14 lifting pumps.

(S) The results of destruction calculations for Khark and Ras lanura/Juaymah are shown in the following table. Juaymah, located about 20 miles northwest of Ras Tanura, transships about 2.5 MB/D. Like Ras Tanura, its main vulnerability is its lift pumps, eight of them co-located in a single target area. Probability of destruction of the lifting pump area at Juaymah would be about the same as the probability of damage to one of the four lifting pump locations at Ras Tanura. The oil stabilization facilities at Abqaiq, which processes oil being sent to Ras Tanura, are inviting targets. The stabilizers, however, could probably be bypassed and, thus, attacks on Abqaiq would probably not have the consequences as attacks on Ras Tanura, Juaymah or Khark.

"We are not certain that the Soviets have an LGB. However, the Soviet AS-10 missile uses semi-active, laser electro-optical homing to deliver a 100 kg warhead. DIA believes that the laser guidance technology used in the AS-10 could be applied to an LGB." Thus, the damage estimates for the LGB assume an unverified, but technologically feasible, Soviet weapon.

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Although destruction of the pumping stations at Khark, Ras lanura and Juaymah has been used as the criterion for stopping the oil flow, damage could occur to other facilities such as control buildings at the various facilities, the oil stabilization plants at Abqaiq and the storage tanks at all the facilities. These "soft" targets, especially the storage tanks, would be vulnerable collateral targets to the pumps. Furthermore, destruction of these industrial targets would make it difficult, if not impossible, to insure the availability of personnel needed to restore and continue operations.

Figure 4 shows the layout of Ras lanura. Of particular interest is the proximity of 10 of 13 liquid petroleum gas (LPG) storage tanks to the lifting pumps. DIA believes that bombing of the lifting pumps at Ras Tanura would ignite the LPG and probably burn out the electrical systems and generators associated with the nearby lift pumps. In addition to the 13 LPG tanks at Ras Tanura, there are also 30 crude oil storage tanks and 61 refined petroleum storage tanks at Ras Tanura with a total capacity of about 28 million barrels of petroleum and petroleum products.

(S) Figure 5 shows the layout of Juaymah. In the vicinity of the lift pumps there are 14 crude oil storage tanks with a capability of about 25 million barrels. Unlike the LPG tanks near the Ras lanura lifting pumps, the lower volatility of crude oil and separation of the tank from the Juaymah lifting pumps make the proximity of the tanks much less of a hazard than at Ras Tanura.

(S) At Khark the critical pumps are about 70 km away from the terminal facility and petroleum storage area.

(S) Using an attrition figure of 5%, an attacker flying MIG-23 type aircraft with 350' CEP would expect to lose 50 aircraft to achieve a probability of destruction of 70% to the 2.9 MB/D of Khark production that is vulnerable. By doubling the air defense effectiveness to 10% attrition, the attacker would lose 50 aircraft after achieving expected destruction of less than 40%. An attacker suffering 5% attrition could expect to destroy about 3.7 million barrels per day of capacity at Ras Tanura before losing 50 aircraft. At 10% attrition, 2.6 MB/D could be destroyed at the same price in attacking aircraft. In general, Ras Tanura/Juaymah are the more lucrative targets if the air defenses at all sites are equally effective.

Even at a 50% loss rate, 200 aircraft attacking Ras lanura/ Juaymah could have a significant effect. Although the expected loss of about 1 MB/D would not be great in relation to total production or demand, it could have a significant disruptive effect on the world economy during a tight oil market. Furthermore, temporary oil losses could be greater because of fires or damage to pier facilities, in addition to any losses occurring on the SLOCS.

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The following table shows expected oil losses under various attrition rate estimates for the attacking aircraft. Results are illustrative for an initial force of 200 floggers or 100 Backfires. The size of the attacking force was fixed in order to relate aircraft losses and attrition rates.

#### Expected Oil Loss From Air Attacks at Khark & Ras Tanura/Juaymah <u>a</u>/ MB/D

Aircraft Losses	Air Defense Effectiveness (percent attrition per sortie)			
	_ 5*	10#	20%	50%
50 Floggers <u>b</u> / 100 Floggers 200 Floggers	4.1 6.2 7.7 <u>d</u> /	2.6 4.0 6.0 <u>d</u> /	1.5 2.3 3.9	0.6 1.0 1.9
50 Backfires <u>c</u> / 100 Backfires	11.8 12.3	9.5 11.7	6.7 9.4	3.6 6.1
50 LGB Carriers <u>b</u> /	12.3	12.3	10.9	5.2

a/ Expected loss is from optimum distribution of sorties among the three facilities. Maximum loss is 12.3 M bb1/day.

b/ Initial force is 200 Floggers; each aircraft carries 4 x 500 kg bombs.

<u>c</u>/ Initial force is 100 Backfires; bomb load is 4 x 3000 kg for Ras Tanura and Juaymah and 10 x 500 kg for Khark.

d/ Maximum aircraft losses shown are only 150 for 5% attrition and 195 for 10% attrition.

4. Air Defenses

As noted above, aircraft attrition increases the number of sorties that would have to be flown to assure destruction of targets. More important, air defense effectiveness determines the price an attacker must expect to pay to achieve given levels of damage, possibly raising the attacker's cost to unacceptable levels. Thus, a credible air defense system would probably deter an attack on the oil facilities, as well as increasing the price of trying to destroy the facilities. Conversely, inadequate defenses would allow repeated attacks with little or no cost to the attacker.

While the cost to the attacker could be very high, the costs of inadequate air defenses would be even higher to the countries producing the oil and those countries that depend on Persian Gulf oil. Because of the grave consequences of the loss of oil, it is important that any error in the calculation of the amount and type of air defenses need to be on the safe side. A number of factors argue for "safe siding" the air defenses. For example:



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Possibility of "Lucky Hits." While several hundred sorties are probably needed for a reasonable chance of success with conventional bombing against the facilities at Khark, Ras lanura, or Juaymah, there is a finite probability, even with "inaccurate" bombing, that as few as 25 sorties would be "lucky" enough to cause the desired damage. None of the critical targets -- the 22 lift pumps at Ras lanura and Juaymah and the three pumphouses at Gurreh -- need more than a single successful sortie for destruction.

Unreliability of Local Air Defenses. There is great uncertainty about the operational effectiveness of Iranian, Saudi and Kuwaiti air defenses, and even about their political reliability in some crisis circumstances. Both considerations argue for some U.S. augmentation, if possible, of local air defenses.

Possibility of Accuracy Improvements. The calculations of sorties needed and damage resulting are sensitive to the attacker's assumed accuracy. Accuracy improvements will raise the attacker's chance of success.

Possible Damage to Softer Targets. Collateral damage, such as extensive fires in oil storage areas or casualties and accompanying panic among the civilian work force, could disrupt or destroy critical operations and facilities.

Air Defense Suppression. The preceding calculations assume, somewhat simplistically, that air defense effectiveness remains constant through repeated attacks. Higher initial effectiveness may be desirable to deter attacks on air defenses and to hedge against possible degradation.

Attacker Initiative. Since an attacker has much less than the defender to lose in any one sortie, he can try an initial attack to clarify some of the uncertainties, continuing only so long as the chances of success look favorable. A high level of air defense effectiveness could deter such "exploratory probes" or at least discourage a follow-on attack.

Fixed Air Defenses (U)

(5) The key weapon in the Saudi and Iranian ground-based air defense system is the Improved HAWK. Saudi Arabia has 10 HAWK batteries (these will be converted to Improved HAWK by 1979) and some obsolete ground-based radars. The Saudis are also procuring an additional 6 of the HAWK batteries -- each with 9 launchers. One of the HAWK batteries is at Ras lanura.

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The estimates of effectiveness of the Improved HAWK vary. Army data give a single shot kill probability (Pssk) of about 0.5 in the absence of jamming. However, PA&E analysts believe the P_{SSk} without jamming is closer to 0.2, and near zero if jamming is used.

A single improved HAWK battery should be able to engage about 30 aircraft during a 15 minute raid and kill as many as 15 if a P_{SSk} of 0.5 is obtained, but perhaps none if the effects of jamming are severe. Thus, the success of jamming, in part, determines the number of sorties required to damage oil facilities.

> Land-Based Air Defense Aircraft b.

> > (1) Overall Regional Air Balance

The following table shows the current size and types of aircraft of the major regional air forces -- Iran, Iraq and Saudi Arabia.

Regional Aircraft Inventories

	Country		
Туре	lran	lrag	<u>Saudi Arabia</u>
F - 4	215		-
F-5	183		65
F-14	66		-
Lightnings	•		30
Hunters		16	
MiG-15/17		35	
MiG-21		161	
MiG-23		73	
Su-7		40	
Su-20		51	
Tu-16		7	
Tu-22		14	
Totals	464	397	95 -

Iran currently has in its inventory about 17% more combat aircraft than Iraq (including combat capable trainers); and when the Saudi Arabian aircraft are added to those of Iran, the combined Iranian/Saudi total is about 40% greater than Iraq. However, many of the Iranian aircraft are not now mission capable, and the future aircraft inventories and capabilities of the Iranian Islamic Air Force are very uncertain. If current Soviet ground attack aircraft in Transcaucasus and Turkestan are included (119 aircraft), the Iranian/Saudi advantage drops to less than 10%.

(2) Air Balances in the Vicinity of Oil Facilities

Pre-revolutionary Iran and Saudi Arabia .had a total of 196 fighter aircraft based in the vicinity of Khark Island, and 97 near Ras Tanura/Jauymah. The Iranian aircraft were at Bushier and Vahdati, the Saudi aircraft at Dhahran. The F-5s at Vahdati are not useful for protecting Ras Tanura/Juaymah because of their short combat radius.

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Based on current beddown, about 105 Iraqi aircraft could reach either Khark or Ras lanura/Jauymah. In addition. 30 Soviet fighter attack aircraft are within range, unrefueled, of the oil facilities. Also, about 155 LRA bombers are in military districts that probably would support operations in the Gulf region. although many of the 60 Badgers and 20 Blinders are not within an unrefueled radius of the oil facilities.

Thus, within the vicinity of Khark, the Iranian/ Saudi forces had a theoretical 1.4 to 1 fighter/attack advantage, but they are at a 0.7 to 1 disadvantage at Ras lanura/Jauymah. If the 155 LRA aircraft are included, we estimate an Iranian/Saudi disadvantage of 0.7 to 1 at Khark and 0.3 to 1 at Ras lanura.

None of these ratios consider attacker losses during overflight, nor the defender's ability to reinforce defenses with aircraft from outside the vicinity of the oil facilities.

c. U.S. Reinforcements (U)

U.S. land-based aircraft could make a significant difference in the regional air balance. If based in Iran, four USAF wing equivalents would add 168 fighter attack aircraft to the defenses. These aircraft would give the combined U.S./Iranian/Saudi air forces a 1.2 to 1 advantage against the previously noted Soviet/Iraqi threat to Khark, although there would still be a 0.9 to 1 disadvantage at Ras lanura/ Juaymah.

These figures compare only total aircraft and not sortie generation capability, exchange ratios, surprise or any of a number of other factors that could greatly determine the outcome of an air battle. Nevertheless, it is clear that the introduction of U.S. aircraft, even in limited numbers, would reduce the combined Soviet/Iraqi advantage from one of obvious superiority to a balance that could favor a defender -especially if the defender has the advantage of early warning provided by AWACS.

d. Carrier-Based Aircraft (U)

(1) General

In addition to land-based forces, or in their stead, carrier-based aircraft could also help defend fixed installations. They would be particularly useful for taking advantage of a period of ambiguous warning, for minimizing direct U.S. involvement with warring countries (should that be an objective of ours), and where local countries might be reluctant to appear too closely involved with us even if they wanted U.S. reinforcements.

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(5) Flight conditions in the Persian Gulf are not ideal. At 88,000 square miles, the Gulf is larger than the Gulf of Tonkin. However, the shipping densities are high, and operating areas are restricted by oil fields and shallow water along the western shore. Heat, humidity and sandstorms severely tax electronic equipment, reduce visibilities and cause unusual radar propagation. The surrounding land can interfere with AEW and fire control radars, although recent radar improvements to the E-2C should allow the modernized aircraft to work effectively in the Gulf.

(U) On the positive side, the prevailing winds blow along the long axis of the Gulf, facilitating landings and takeoffs. The density of merchant traffic also would complicate long-range targeting of the carriers, and the relatively confined and shallow waters reduce the submarine threat.

(2) Carrier Vulnerability (U)

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(U) Aircraft carriers committed to a relatively small and confined body of water, like the Gulf, are especially vulnerable to attack and difficult to withdraw, should their exit route be mined or blockaded. However, a carrier could derive significant protection from the perceived consequences, at least for smaller countries, of a direct attack on United States forces.

(S) <u>Iraqi Threat</u>. If Iraq is the only threat, two CVBGs or one CVBG augmented by early warning would be sufficient to counter any attack on the carrier. DIA believes that the Iraqis have only free-fall bombs to attack carriers. Even direct hits would be most unlikely to cause severe structural damage or loss. However, the chance of a raid of 25 fighter-bombers causing superficial damage to a single CV is high, and the chance of a significant interruption of capability (1-24) hours is not negligible.

(5) If two CVs were deployed to the Persian Gulf, the Iraqis would need to mount a coordinated raid of 50 fighter-bombers to effect the same levels of damage on both CVs as they could with 25 against one CV. Moreover, the chance of a significant interruption of the capability of both CVs would be very small.

Soviet Threat. Even two carriers might not survive in the event of a Soviet attack. The risk in committing them would depend heavily on the availability of early warning from ground stations in Turkey and Iran or from airborne early-warning systems. In a crisis of this severity, the U.S. would be much more likely to have access to land bases for AWACS-type aircraft or to information from ground-based radars. If there were land bases for AWACs and radars, land-based interceptors would also be available and the role of the carriers would be more marginal.

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Soviet Naval Aviation (SNA) has a Black Sea force that could attack CVs in the Gulf -- about 20 Backfires (AS-4capable) and 50 Badgers (AS-2 or AS-6 capable). A single hit by an AS-4 would have a good chance of interrupting CV operations, but only a small chance of sinking the carrier. Analysis showed that for 1978 forces early warning did not allow F-14s on DL1 to engage bombers before weapon release. Out of a raid of 18 bombers, 10 would survive CAP F-14 attacks from two CVs. The ASMs from these survivors would saturate the carrier battle groups. If early warning could be improved by timely access to information from Turkish and Iranian radars or from AWACS aircraft, it would take 32 bombers to have the same overall effect.

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By 1985, the major change will be the introduction of AEGIS. If AEGIS ships accompany the carriers, the probability of carrier survival would increase, although early warning would still be crucial. Early warning against a Soviet attack would be made more difficult by the need to intercept the attackers outside of ASM range of the carriers -thus requiring detection over land where the E-2C effectiveness against lowflying aircraft is reduced and by the wide possible variation in the direction of the attack.

(S) Against the Iraqi Air Force, a two-carrier deployment could be very effective either in offensive counter-air attacks or in air-to-air interception. Iraq has no effective night air defenses, and attacks on airfields and related facilities could be made at night by the carriers' A-6s with a low probability of aircraft loss. Because less than 20 percent of Iraqi aircraft are sheltered, night-time attacks by A-6s with cluster bombs (Rockeye) would be very effective. Iwo air wings could disable more than 75 percent of Iraq's bomber force and 85 percent of the interceptor force on the ground with 2 strikes. Iven if dispersal fields were used, no more than four strikes (which could be done in two nights) could be sufficient.

(3) Contribution to Defense of Fixed Facilities (U)

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(5) In direct defense of oil facilities, the effectiveness of the carriers would depend on their location. The 160 nm range of the E-2C with ARPS against low-flying aircraft over land would not allow the monitoring of activity at Iraqi air bases without overflight. Therefore, virtually no air defense could be provided Kuwait (unless air superiority had been achieved) and only limited air defense could be provided Khark. Other major oil facilities in the Gulf are sufficiently distant from Iraq that F-14s on both CAP and DLL could intercept an Iraqi raid before it reached the target. Two CVs would exact attrition of:

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Chief, Declass B' Dir, & Rec. Div. WHS Between 6 and 15 kills per raid for lragi attacks at Khark.

Between 20 and 42 kills per raid for lragi attacks on other targets in the Gulf region.

(S) If Soviet aircraft attacked oil facilities in the Gulf from bases in areas bordering lran, they would have some freedom in choosing a direction of attack. Requirements for early warning would be very stringent and could almost certainly not be achieved without AWACS aircraft. The situation would be worsened by the large arc that would have to be defended. (The Iraqis would attack along the axis of the PG, the Soviet would attack across it.) Therefore, the level of air defense provided by two CVs would be quite low. Further, requirements for area air defense would conflict with requirements for self-defense of the CVs.

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Desired Air Defense Effectiveness (U)

a. lraqi Threat (U)

(5) The Iranian and Saudi air forces, together with their HAWK systems, appear able to provide a minimum level of air defense against Iraqi air attacks, particularly if they are operating as allies. Individually, Iran is in a better position to defend its oil facilities against Iraqi attacks. The proficiency of the Saudi and Iranian HAWK batteries is limited, and U.S. HAWK systems would probably be useful, particularly around airfields where U.S. aircraft are based.

(5) The addition of a limited number of U.S. aircraft, either a wing of land-based fighters or a single carrier, would provide a margin of safety as well as the ability to attack Iraqi airbases and logistic systems. The value of the air defense systems, would be greatly enhanced by additional early warning, which can be achieved by improvements to the local early warning systems or by the use of USN E-2Cs or the USAF AWACS.

b. Soviet Threat (U)

Iran and Saudi Arabia collectively do not have the capability to defend against a joint Iraqi/Soviet air attack. Solely for defense of oil facilities, one--or at most two--USAF wings should provide sufficient aircraft to inflict attrition on a Soviet attack. The inclusion of an AWACS orbit along the axis of the Persian Gulf would be an important complement to the air defenses.

(5) In lieu of, or in addition to ground-based aircraft, two CVBGs should be sufficient to protect oil facilities from air attacks while mutually protecting themselves against Soviet attacks. In addition to the aircraft, U.S. HAWK batteries would probably be a useful addition to the overall defense effort.

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### 6. Other Threats to Oil Facilities (U)

Although this paper considers only air attacks; there are, of course, other threats to the oil facilities. Among these are terrorist attacks, commando raids, and attacks from ships in the Gulf. Of these, terrorist attacks have been of most concern to both the Iranians and the Saudis.

It is not likely that one man or a small band of terrorists could cripple any of the major facilities, with the possible exception of an attack on the LPG area at Ras lanura that ignites the highly inflammable vapors around the tanks. Most major facilities have perimeter fencing, guard forces and limited access. Khark Island is guarded by a naval detachment and fixed defensive positions are being prepared on the island. Saudi oil fields are guarded by the Saudi Arabian National Guard, which are supported by a reasonably good intelligence force. Furthermore, the Saudi facilities are in the desolate desert area of the country, and access through the desert to the oil fields is rigidly controlled.

(5) Commando or Soviet "Special Operations Forces" attacks could result in very selective and severe damage to oil facilities. Such attacks, if launched before adequate defensive military forces could be positioned around the facilities, could be even more devastating than a sustained conventional bombing campaign and take less time to accomplish.

7. Repairs to Oil Facilities (U)

a. Background (U)

Oil company executives and petroleum engineers are optimistic about the ability to repair damage by terrorists. They cite four reasons for their optimism:

- Multi-product handling, storage and throughput can be complex, and repairs to multi-product facilities can be time-consuming. However, dealing only with crude oil, the single crucial export of the Persian Gulf, greatly simplifies the problem in any emergency situation.
- The secret to rapid restoration of throughput is to temporarily bypass the damaged areas. This reduces the out-of-operation time from months to weeks.

- Temporary repairs can be made with portable, skid-mounted equipment that is available in large quantities and in great variety within the petroleum industry. Large capacity permanent pipelines, pumps, and storage tanks can be bypassed by using many smaller temporary skidmounted units operating in parallel.

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Jury-rig lash-ups and temporary repairs to restore or sustain production are common practice in the oil industry. Temporary field installations to produce crude oil are common in the U.S. when the quantity of oil available at a well is unknown or too small to justify permanent large facilities. U.S. petroleum technicians and roughnecks are very ingenious in solving problems on the spot. Ł

#### b. 011 Fields (U)

(U) Individual oil wells are very vulnerable if access can be gained to them. However, the large number of wells and their dispersion over hundreds of miles makes them an unattractive target if the object is to drastically reduce production rather than just harass the government and the local security forces.

(U) A fire in a Saudi Arabian well could be troublesome: some wells producing large quantities of oil (10,000 - 14,000 bbl/day) are not uncommon in the Ghawar field. A major well fire would require outside experts, and only a few companies in the world have the expertise to extinguish this type of fire. A major well fire would not affect the production from other wells in the field that are outside its immediate area.

(U) Major well fires can be avoided under any conditions of attack if down-hole storm chokes (also called rams and hurricane cutoffs) are installed in the well. Storm chokes are always used on offshore wells, but they are not installed on wells drilled on land in the Persian Gulf area.

c. Processing and Treatment Facilities (U)

(U) The two major processes that are accomplished locally on Persian Gulf crude oil are gas-oil separation and hydrogen sulfide removal.

(U) Most of the oil-exporting countries have or are installing facilities to capture for commercial use the gas produced as a crude oil side product. (Iran is installing multi-billion dollar gas injection facilities to reinject the recovered gas back into the wells to sustain field pressures.) Gas can also be "flared off" the crude oil; although this is wasteful and distasteful to oil producers, it is common in Persian Gulf countries.

(U) Stabilization plants remove the poisonous and corrosive hydrogen sulfide from the crude oil before it is shipped. However, if the stablization plants are damaged, it is believed that make-shift separations could be constructed or the process bypassed temporarily.

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(U) A third process, separation of water from the oil, will become increasingly necessary in major oil fields of the future. Most of the larger fields in the Persian Gulf are maturing and require water injection to sustain drive pressure. Wells that produce significant water cuts are now shut-in until water-oil separators can be installed. Further information is needed on temporary water-oil separators. Under emergency conditions, it is conceivable that crude oil could be shipped with substantial water and either be separated on board the tankers at sea or removed at the distinations.

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d. Refineries and Terminal Facilities (U)

(U) The two most difficult types of equipment to repair rapidly are oil refineries and underwater pipelines. Severe damage to an oil refinery could take many months to several years to repair due to limited capability to bypass damage to the large processing towers, mixing tanks and chemical retorts. However, the refinery outputs of the Persian Gulf are not critical to world requirements.

(U) Repair to underwater pipelines (and any other installation that requires divers or underwater construction) is time-consuming and generally difficult. Major repairs or replacement of underwater installations will take many months to several years. The best emergency procedure in case of damage to a terminal facility, its underwater pipelines or the sea islands is to bypass them. Temporary floating lines and skid-mounted pumps can be used to feed offshore, single-mooring point buoys. Restoration of significant amounts of throughput could be made in weeks with a sequential build-up in transfer capacity.

e. Proposals for Increasing Emergency Repair Capability (U)

Two procedures appear attractive for improving oil facility emergency repair capabilities.

Maintain a stockpile of skid-mounted equipment, or an up-to-date inventory list of skid-mounted equipment available from major suppliers.

 Gather facility information from the international construction companies that built major installations in the Persian Gulf.

(1) Stockpile of Skid-Mounted Equipment (U)

(c) A stockpile of skid-mounted equipment could be established that would be tailored in quantity and type to making emergency repairs to specific types of oil facilities at a given level

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of throughput. This equipment should be rapidly air deployable. A less expensive, but also less effective, alternative would be to keep a list of skid-mounted equipment available in warehouses and normal supply channels. This would be practical within the U.S. because of the concentration of major U.S. suppliers of this type of equipment in the Houston area.

### (2) Oil Facility Repair (U)

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(U) There are 17 Reserve SEABEE Battalions and 8 Active Battalions. The expert reserve manpower exists to man up to two Reserve Battalions for emergency oil facility repair and operation. Some adjustments would have to be made to the structure and TOE of these "oil" battalions, but they would still be capable of carrying out the standard battalion missions if required.

(3) Information on Oil Facilities (U)

(U) Oil facility construction in the Persian Gulf is usually done by large design and construction firms who contract for the whole job. They do the design work, plan the material input and complete the construction with many subcontractors. Whole-job contracts include establishing maintenance standards and providing initial spare parts and equipment. American firms dominated oil facility construction until the 1960s. Now, many other foreign national and international firms also get large shares of the business. Large construction firms cooperate with each other after contracts have been awarded and apparently exchange blueprints and design details rather freely. An attempt could be made to gather as much information as possible on the design and construction of the oil facilities to aid in preparing for their repair.

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Chief, Declass B: Dil. & Rec. Div. WHS B. THE THREAT TO THE OIL SLOC OUTSIDE THE GULF (U)

1. Background (U)

(U) The Persian Gulf oil sealanes contain over 5000 merchant ships on an average day -- nearly 550 of which are loaded tankers. In 1978, about 20 million barrels of oil and petroleum products per day were carried out of the Persian Gulf by sea. These included some 60 percent of Europe's demand and 17 percent of U.S. consumption. Roughly 12.3 million barrels per day rounded the Cape of Good Hope. By 1985, the Gulf will provide about 53 percent of Europe's oil and 38 percent of U.S. national demand.

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(S) The vulnerability of the Persian Gulf oil sealanes is examined here through a campaign analysis. Among the uncertainties encountered in this study are the following:

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Chief, Declass Br Dir. & Reg. Div, WHS The degree of Soviet interest in an anti-SLOC campaign in distant waters.

The size and effectiveness of Soviet forces.

Soviet base access and resupply options.

The effectiveness of Western maritime patrol aircraft.

The vulnerability of supertankers.

(U) *For the purposes of this paper, the following estimates of 1978 oil distribution will be used:

National Demand Flow From Gulf Around Africa (million barrels per day -mbd)

· . . . .

U.S. Western Europe Japan Other Non-Communist	18.0 14.5 5.7 12.2	3.0 8.9 4.5 <u>3.6</u>	3.0 7.5 <u>1.8</u>
Non-Communist Total	50.4	20.0	12.3

A notional tanker size of 150,000 tons will be used throughout, resulting in traffic flow of about 20 loaded ships per day out of the Gulf. Peacetime petroleum demand is a questionable reference standard, but few other measures are available. Preliminary studies of U.S. mobilization needs suggest that wartime energy consumption would drop due to government restrictions and shifts from civilian to military production. However, most countries would continue to import all the oil they could afford, with surpluses used to build stockpiles. (8) With allowances made for these uncertainties, our analysis concludes that:

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SNA and submarine attacks might sink large numbers of tankers, but neither Europe, Japan nor the U.S. would be likely to lose more than 15 percent of its 30 day oil supply. This holds true even under assumptions that were relatively favorable for the Soviets. i

- The threat from SNA is at least as great as that from submarines, even with Western defenses in place.
- Both the SNA and submarine campaigns would abate after the first 30 days.
- Western defenses and economic countermeasures can keep economic disruptions within manageable proportions, but the SLOC may be closed temporarily while the threat is brought under control.

2. The Threat (U)

(6) Due to the distances involved, logistic constaints, and competing missions elsewhere, the Soviets are not expected to commit major forces against the SLOC in the Indian Ocean or the South Atlantic. The basic seaborne anti-SLOC force is considered to be 3-4 submarines off of East Africa and 1-2 off West Africa. Additional Soviet naval units might be deployed against U.S. carriers or amphibious ships, but probably not against merchant shipping. Clandestine resupply might be arranged for some of the submarines. SNA attacks against shipping in the Persian Gulf and Gulf of Oman were examined. Sensitivity analyses explored the impact of alternative Soviet basing and threat levels. Table II-B-1 summarizes the forces from which anti-SLOC units might be drawn.

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# Table <u>II-B-1</u>

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POTENTIAL SOVIET ANTI-SLOC FORCES

General Purpose Submarines Available for SLOC Interdiction +54. E Rec. Eiv. With

(Source: CIA)

•	10	10	198	85
	Northern Fleet	Pacific Fleet	Northern Fleet	Pacific Fleet
55N 55	26 44	12 19	46 26	22 18
Total	<u> </u>	31	72	40

•	SNA	8omber	Inventory
		(Source:	DIPP)

	(Source: VIFF)		1985	_
•	Black Sea	Total	Black Sea	Total
Badger ASM	49	265	30	175
Badger Bomber Backfire/Blinder	38		35	150
Totals	103	356	65	325

Distance considerations limit the Soviets' ability to operate against the oil SLOC. Assuming 80 percent availability, 5 SSNs or 9 SSs would be needed to keep one Pacific Fleet submarine on station near the Indian Ocean SLOC: 4 Northern Fleet SSNs or 7 SSs, to keep one off the Bulge of Africa. In short, it would be much easier, and probably more productive, for the Soviets to attack the tankers in the Philippine Sea or the North Atlantic, where the targets are closer to Soviet bases. Similarly, ASM-carrying Badgers from the Crimea must be refueled in order to fly missions in the vicinity of the Gulf of Oman. Without refueling, they would have to be moved to bases farther away from their primary responsibilities in the Eastern Mediterranean.

> Allied Responses (U) 3.

In our analysis, maritime patrol aircraft (P-3, Atlantiques, etc.) are specified as the principal allied ASW force. Within a week after the crisis starts, (but before the outbreak of hostilities), it is assumed that three P-3 squadrons (27 aircraft) would be positioned around the Indian Ocean, with two squadrons (18 aircraft) in the South Atlantic. These aircraft could be augmented by French forces from Reunion or Djibouti. Surface escorts and a carrier are deployed against Soviet

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resupply and overseas bases. Land-based fighters and AEW aircraft are considered to be the countermeasures for SNA. It is important to realize, however, that the use of even a few modern aircraft from Indian Ocean bases would involve serious support problems. For example, although Diego Garcia has JP-5 storage and P-3 maintenance facilities, it has space for only 11-14 large aircraft and is undefended.

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4. ASW Campaign Analysis (U)

(S) The analysis focuses on the Western Indian Ocean and the South Atlantic. The Japan SLOC has been covered by other PA&E studies. These earlier studies showed that by 1981, the Japanese Self-Defense Forces in the Pacific, together with Iranian and Australian forces in the Northern and Eastern Indian Ocean, could provide enough ASW protection for convoys in those areas to sustain Japan's economy at an austere level for 180 days.

(5) Due to limited Western ASW assets and relatively poor acoustic conditions along much of the SLOC, a higher priority is given to keeping the submarines from rearming out-of-area than to searches for the submarines from rearming out-of-area than to searches for the submarines themselves. This approach will be described in more detail below. When sorties are flown against the submarines, they center at the position of the last tanker sinking (flaming datum procedures). The aircraft are allowed 200-225 flight hours per month; but since the intensity of the campaign diminishes over time this is not a binding constraint. With access to the bases shown in Figure 1, a P-3 could be on-station within 2 hours of an attack nearly anywhere in the SLOC. The study also assumed that allied ASW barriers would be deployed across Soviet submarine transit routes once hostilities began against the tankers.

(S) It is also possible that U.S. units would begin trailing Soviet forces prior to hostilities and eliminate them at the outbreak of fighting. In fact, there is reason to believe that we would be fairly successful in this mission. However, this analysis focuses on the alternatives if we are not so fortunate.

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The ASW analysis demonstrates that:

Western stockpiles and the sheer volume of shipping in the SLOC (see Figure 2) would make it hard for Soviet submarines to sink enough ships to seriously disrupt the U.S. and European economies. These results are summarized in Table 2.

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As shown in Table II-B-2, assumptions about torpedo loadouts and weapons effectiveness affected the outcome more than those about aircraft Pk. Similarly, prevention of outof-area resupply would save more tankers than would be lost by the diversion of P-3s from ASW to anti-supply ship missions.

#### Table II-B-2

30-DAY SUBMARINE CAMPAIGN IN THE INDIAN OCEAN AND SOUTH ATLANTIC a/ (S)

(Oil losses expressed as a percent of 30 day demand in 1978)

	Base Case	Assumptions b/ <u>Worst_Case</u>	Best_Case
Western Ships Sunk	54.0	113.0	18
Western Tanker Losses (%) <u>c</u> /	4.7	9.8	1.5
European Oil Lost (%)	7.6	15.8	2.5
.U.S. Oil Lost (%)	2.4	5.1	.8
Soviet Submarines Lost/Committed	4.5/10	3.1/10	1.3/6

Submarines assumed to attack only loaded tankers.

Assumptions and key variables are outlined in Appendix B.

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Based on the distances and oil volumes involved, some 1150 notional tankers would be continuously employed in the Persian Gulf trade. Of these about 530 would be loaded and at sea, and 90 would be in port.

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#### Table II-B-3

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TANKER SINKINGS AS A FUNCTION OF DIFFERENT -BASELINE VARIABLES <u>a</u>/ (S)

Variables	Sinkings at	Sinkings At Most	Sinkings at Most
	Base Case Value	Optimistic Value	Pessimistic Value
	(Value)	(Value)	(Value)
Torpedo Loadouts/	54	48	101
Shots per Sinking	(16/4)	(12/4)	(16/2)
Resupply Prevention	54	35	65
	(1 Resupply)	(No Resupply)	(2 Resupplies)
P-3 Effectiveness <u>b/</u>	54	50	56
(P _k )	(.06)	(.154)	(.001)
Submarine Losses in	54	49	54
Transit, All Causes <u>b</u> /	(.22)	(.57)	(.22)

<u>a</u>/ Only one parameter valued at a time.

b/ Although submarine losses to barriers, ASW forces in transit and P-3s on station have little impact on the number of tankers sunk in a 30 day campaign, the P_k In a longer campaign however, the submarine losses would reduce tanker sinkings.

> Based on the importance of resupply prevention, 3 of the 5 P-3 squadrons are assigned to surface surveillance at the outbreak of hostilities. The remaining two squadrons, armed with Harpoon, attack potential re-supply ships detected by surveillance. Using random patrols, this combination could neutralize all Soviet and Bloc shipping along the SLOC in 5-7 days at the 80 percent confidence level. The area searched is shaded in Figure 11-B-3. With good intelligence support, the job could be finished even faster. No more than two tankers should be lost as a result of this diversion from ASW roles, but the rules of engagement would have to allow the destruction of Soviet and Bloc merchant ships if the anti-supply campaign is to be effective.

Protection of shipping could be enhanced by routing tankers along paths A and B in Figure II-B-3, as well as along the normal SLOC. Rerouting not only reduces the number of targets presented to a given submarine, but it also exploits the better acoustic conditions near the center of the Indian Ocean.

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A carrier battle group near the Persian Gulf at the outbreak of hostilities could reach, and probably neutralize, any Soviet Indian Ocean base or sanctuary ashore within 10 days. L

- The Soviets would have little incentive to send more submarines against the SLOC in the Indian Ocean and the South Atlantic. Each submarine on station at the beginning of the campaign would sink about 7 ships, but large initial deployments would alert Western defenses and the surge would degrade Soviet readiness later in the conflict. Once the shooting starts only about 2.8 sinkings would be expected for each submarine committed. Similarly, in the long run, about 4.3 tankers would be lost for each submarine sunk. By either measure, it is clear that neither a longer, nor a more intense campaign in distant waters by the threat forces listed in Table 11-8-1 could close the SLOC for an extended period. Moreover, Navy studies indicate that Soviet submarines could achieve at least comparable success rates against shipping in the North Atlantic and Pacific, with shorter transit times and fewer maintenance problems.
- South African bases are particularly important to the West. It would be almost impossible to cover the Cape region without South African airfields.
- An alternative Soviet tactic might be to use only one torpedo per ship to damage, rather than sink, it. Large numbers of crippled tankers far from repair facilities would tax Western salvage capabilities. However, Soviet submarine sinkings also would rise since the subs would expose themselves more often. In the steady state, under base case assumptions, the Soviets would disable 84 tankers per month (4 days' oil supply), but they would lose nearly 80 of the submarines committed.
  - The figure of 54 tankers sunk under the "Base Case" column of Table 2 also seems valid for 1985. If anything, Western losses probably would decrease due to projected ASW improvements. However, U.S. oil imports from the Persian Guif are expected to rise faster than European oil imports over the next seven years. Therefore the 1985 oil loss from the 54 sinkings shown in Table II-B-2 would shift to 4 percent for Europe and 3.3 percent for the U.S.

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5. AAW Campaign Analysis (U)

(S) SNA attacks against the SLOCs are assumed to take place in the Persian Gulf and the Gulf of Oman. In the base case, the strikes occur after a period of warning, when allied land-based fighters are in place. An alternative surprise attack with no fighters also was examined. F-5s, F-4s, F-15s, and F-16s could cover most of the threat area from Southeast Iran or Oman. AEW could be provided by U.S. or Iranian AWACS or landbased E-2s. Carriers also could help defend the SLOC against SNA, but are withheld in this analysis for other missions.

In the base case, tanker sailings are kept at 1978 peacetime levels throughout the attacks. In addition, cargo ship traffic is assumed to sail roughly one-third of peacetime levels to sustain the Gulf economies. Several variations are examined. SNA attacks with either bombs or ASMs are assumed to continue until: (a) 1/2 of the Black Sea bomber inventory is lost (50 aircraft) or (b) 1/4 of the total SNA inventory (all Fleets) of air-to-surface missiles is expended. The results are shown in Table II-B-4 as a function of SNA attrition rates.

#### Table II-B-4

#### WESTERN LOADED TANKER LOSSES VS SNA ATTRITION (S) 1978

	SNA Att	rition Rat	tes Per So	ortie
Situation	5%	10%	20%	<u>50%</u>
<ol> <li>40 ASM-carrying Badgers attack until 1/2 of Black Sea SNA bombers destroyed <u>a</u>/</li> </ol>	113	59	32	14
2. Free-fall bomb attacks until				
1/2 of Black Sea SNA bombers	242	125	68	29
destroyed <u>b/</u>	(166)	(86)	(45)	(20)
3. ASM attacks until 1/4 of total				
SNA inventory of ASMs expended <u>c</u>	/ 14	14	14	14
<u>a</u> / Missiles distributed among tar statistics, a = .5, 40 merchan See Appendix B for methodolog	gets accord t ships, 40 v.	ing to Bos tankers	e-Einste 1/2 load	in (B-E) ed).
b/ 18-500 kg bombs per Badger. (	Parentheses	refer to	10-50 <del>0-</del> k	g bombs
per Badger). 350 foot CEP per	aircraft.	Only load	fed tanke	rs
attacked.				
<u>c</u> / Attacks stop when 240 missiles	used, base	d on DIA e	estimate	of 1978
total SNA inventory of 800-105	O ASMs. Wei	apons dist	tribution	B-E.

(S) This table points to five important conclusions:

Even with Western defenses in place, SNA poses a serious threat to the oil SLOC.



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- As was the case with submarine torpedoes, ASM inventories are a potentially severe constraint for the Soviets. However, the intelligence data on this subject are soft, and the Soviets could build up their inventories fairly rapidly with new naval ASMs, electro-optical TASMs or laser-guided bombs.
- Badgers with free-fall bombs are effective in large numbers at low altitudes. This is mainly because they are assumed to be able to concentrate on loaded tankers, whereas the ASMs are distributed over all ships. However, the bombers' low-level accuracy could be countered by issuing Redeye or Stinger to the tankers. Futhermore, non-ASM Badgers are being rapidly phased out of Soviet inventories, so that ASMcapable aircraft would have to be used to mount large bomber raids.
- An SNA campaign against a defended SLOC would not be prolonged. Even with 5 percent attrition on 40 bomber raids, half of the Black Sea bomber force would be lost in 25 sorties.
- SNA attrition rates of 20 percent or more are desirable to reduce the threat to manageable proportions. With 6 to 10 F-15s, or about 20 F-4s or F-5s plus AEW aircraft, the allies should be able to extract 20 percent attrition rates from 40 Badger raids. If the 42 Iranian F-4s at Bandar Abbas were brought to bear, attrition rates of 50 percent or more are possible.

(8) Because the SNA attacks take place in the northwest Indian Ocean, the target shipping also includes tankers bound for Japan, East Asia, and a variety of other destinations that would not be threatened by the submarines farther south. Thus, the distribution of oil losses to SNA as a proposition of 1978 30-day demand ranges from a worse case of: USA-6.7 percent, Western Europe-24 percent and Japan-31.8 percent to a best case of: USA-0.4 percent, Western Europe-1.4 percent and Japan-1.8 percent.

In the case of the surprise attack, SNA probably could close down the SLOC completely in 3-4 days, with Western losses ranging between 65 and 91 ships. Of these, 33 to 47 would be tankers -- about half of them loaded. Such losses, of course, would be additive to those suffered later after the defenses were in place as well as to losses caused by submarines elsewhere in the SLOC.

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6. Other Threats (U)

In addition to Soviet aircraft and submarines, it also is possible that surface ships or the armed forces of neutral states could threaten the tankers. However, localized threats away from the choke points around Hormuz or Bib-el-Mandeb can be avoided by rerouting the ships. Similarly, surface combatants probably could be neutralized by aircraft in a few days. Neither force would be likely to disrupt the SLOC for very long. Thus, they have not been considered further.

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7. Summary (U)

(U) 11-B-5.

### Losses from all causes in 1978 are summarized in Table

#### Table 11-8-5

TOTAL WESTERN TANKER LOSSES IN THE OIL SLOC - 1978 (S) (Parenthesis Show Numbers of Loaded Tankers)

Cause	Base Case	Worst Case	<u>Best Case</u>
Submarines	54 (54)	113 (113)	18 (18)
SNA/Allied Defenses in Place	<u>    63    (32)</u>	242 (242)	<u>27 (14)</u>
	117 (86)	355 (355)	45 (32)
SNA/Surprise Attack Results	$\frac{47}{164}$ $\frac{(23)}{(109)}$	<u>47 (23)</u> 402 (378)	<u>33 (17)</u> 78 (49)
Losses as % of 1150 Tankers in Persian Gulf Trade	14.3	35.0	6.8
Losses as % of 30-day oil demand		12.5	37
-U.S.	3.9	42.9	5.7
-Japan	7.2	34.9	4.1
Losses as % of 30-day P.G. tanker shipments	14.3	35.0	6.8
Soviet Losses Submarines Aircrafi	4-5 56	3-4 50	1-2 60

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45] It can be seen that, although the actual oil losses are not large as a percentage of demand (less than 15 days' supply in all cases), the worst case destruction of 402 tankers would represent an insurance loss of over \$12.5 billion and would slow the rate of subsequent oil deliveries.* Even in the base case \$4.5 billion in ships and cargoes are lost.

(S) Convoying is not an attractive option. In the first place, the convoys would need a large number of escorts. More importantly, CIA's estimate of a 20 percent reduction in oil deliveries due to convoy inefficiencies is larger than the losses inflicted by the attackers in all but the worst case. Nevertheless, under worst case assumptions, some form of convoying might be needed to get the tankers to sail.

It is clear that foreign bases are important to both sides in the campaign against the SLOCs. Denial of the airfields shown in Figure 11-B-1 would slow Western reactions to sinkings and perhaps even create submarine havens. The loss of Diego Garcia as a staging area and support base could even preclude an extended ASW effort. In the absence of fighter bases in Gman or Eastern Iran, two carriers probably would be needed to counter SNA. Conversely, Soviet fighters at fields along the African littoral would threaten the P-3s over a wide area (Figure 1). If an out-of-area resupply facility could be maintained, it would both increase the effectiveness of the submarines and reduce their losses. Finally, the deployment of SNA closer to the SLOC (for instance in Afghanistan) would reduce our warning time, allow the Soviets to carry higher payloads, and permit them to escort their bombers, although this is not their current practice.

(5) Soviet capabilities against the SLOC in 1985 probably will be similar to those today. Improvements in attack submarines are likely to be more than matched by U.S. ASW advances. New Soviet ASMs and PGMs will be offset by the projected phase-out of nearly half the Badger force and the development of better Western AAMs and point-defense systems for merchantmen. Perhaps the biggest potential growth in Soviet capabilities would come from bases in areas closer to the SLOC. Fencers or Floggers could attack the tankers directly from fields in Afghanistan. However, Soviet bases farther afield (such as Aden) would be so detached from the USSR as to be vulnerable to direct U.S. strikes - either from airfields in the Middle East or from carriers. In any case the amount of oil flowing from the Gulf is projected to rise from some 20 million barrels per day to about 28 million by 1985. Thus, the same numbers of sinkings will have a smaller percentage impact. Larger oil stockpiles could further cushion the blow.

(U) *In early 19/7, there were some 4,800 non-communist tankers, of which about 1530 were 60,000 tons or larger. As noted above, there are an estimated 1150 tankers in the Persian Gulf trade. In late 1978 more than 230 tankers totalling 31 million tons were laid up. Even though the tanker market is expected to tighten by the mid-80s, there should be enough ships available to replace all but the worst case losses.

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In sum, the principal value of a SLOC campaign to the Soviets seems more political than economic or military. They are unlikely to destroy significant amounts of military hardware along the SLOC, and the oil losses themselves will not impede Western military operations. Similarly, the economic disruptions from an anti-SLOC campaign (aside from insurance claims) would be felt only after several months. On the other hand, at the risk of alienating almost the entire world, Soviet attacks on the tankers might create a panic in the West that would preclude coordinated actions and cause disruptions far out of proportion to the military threat posed by the Soviet forces.

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8. Recommendations (U)

It is extremely important for the West to take visible and decisive action at the onset of an anti-SLOC campaign to avoid panic. The refusal of seamen to sail would curtail oil shipments just as effectively as ship sinkings.* With this in mind, (1) war risk insurance and compensation programs should be considered for foreign flag ships; (2) force commitments should be announced and a surveillance center established ior the SLOC as soon as the crisis develops; search, rescue, and salvage operations along the SLOC should be strengthened to bolster crew morale.

Some forms of fighter and AEW protection against SNA must be deployed to the Persian Gulf or the Gulf of Oman -- ideally, before fighting breaks out.

Diplomatic efforts should be bolstered to protect access to airfields in Oman, Kenya, the Seychelles and the Maldives. Support from the French should be sought for the joint use of Reunion Island. Soviet base development in Afghanistan should be opposed.

Our policy on South Africa should consider the fact that the loss of South African assistance would offer the Solvets a submarine have near the Cape of Good Hope that would be at the limit of P-3 range.

Plans should be prepared to expand aircraft ramp space on Diego Garcia and to provide at least some air defense for the island.

(U) *Despite the potential for disruption, few sea routes actually have been closed for want of seamen. From the Malta and Murmansk convoys of World War II to the Mekong river sailings just before the fall of Phnom Penh, there have usually been enough men willing to sail the endangered ships. In any case, war risk insurance programs for owners and enhanced compensation plans for seamen already have been formulated by several governments and could be implemented on short notice.

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Appendix A

## VARIABLES IN THE ASW ANALYSIS (U)

(C) Six key variables were used in the ASW analysis: (1) P-3 effectiveness (Pk) against submarines, (2) anti-ship torpedoes per Soviet submarine, (3) torpedoes needed to sink each tanker, (4) whether or not the submarines were resupplied, (5) whether or not the submarines were replaced on station and (6) the effectiveness of allied ASW forces against Soviet submarines in transit. The range of values considered in the study is summarized in Table 11-B-A-1.

#### Table 11-B-A-1

#### ASW VARIABLES 15-

	P-3 Pk	Anti-Ship Torpedoes per Sub_	lorpedoes per Sinking	lorpeao Re-Supply	Submarines Replaced	Transit P _k
Baseline	.06	16	4	Yes	Yes	.22
Worst Case	.001	16	2	Yes	Yes	.22
Best Case	.154	12	4	No	No	.22

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The derivation of these figures is outlined below:

- (1) A Pk of .154 for P-3s was derived from data in SEAPLAN 2000 based on current operations. However, due to the relatively poor acoustic conditions along most of the SLOC, austere P-3 support facilities and the lack of SOSUS coverage, the .154  $\mathsf{P}_k$  was downgraded to .06 in the base case analysis. Other Navy studies have been more optimistic. In Force Mix, the Pk ranged from .43 to .154. However, as shown in Table 2, the campaign outcome is quite insensitive to P-3 effectiveness. In any case, a higher PL only strengthens the conclusion that interdiction of the oil SLOC would be difficult for the Soviets.
- (2) Modern Soviet submarines are credited with capacities for 18 to 22 torpedoes. CIA estimates that about a quarter of this load would be anti-submarine weapons for self-defense. Estimates of both 12 and 16 antiship torpedoes per submarine have been used in Navy and CIA SLOC interdiction studies.
- (3) World War II submarines fired between 7 and 11 torpedoes for every merchant ship sunk. Hoever, more recent campaign analyses have estimated that 2 to 4 firings would be needed per sinking. The latter



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Chief, Declass, B. Lat, & Rec. Div. WHS figures were used herein, but they probably are low, particularly in the case of very large tankers. The vulnerability of these ships is open to debate, but the few data points available show that it has been hard for conventional ordnance to destroy even immobilized tankers that have been damaged by accidents.

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- (4) In the base case, resupply of submarines was considered to occur from tenders or merchant ships in sheltered waters within 150 miles of the SLOC. One submarine was assumed lost during resupply. It was felt that the resupply ships would have been eliminated by the time that the submarines expended their second load of torpedoes and that the subs then returned home.
- (5) In the base and worst cases, two SSNs were assumed to leave Vladivostok on D+2 and were in the Arabian Sea on the 24th day. In the Atlantic two SSNs would leave the Northern Fleet at D+2 and arrive off the Bulge of Africa by D+1E. No out-of-area resupply for replacement subs was assumed.
- (6) SEAPLAN 2000, p. V-17 gives a  $P_d$  for a transiting submarine in the Pacific as .8, and a  $P_k/d$  of .17, yielding a transit  $P_k$  of .136. The chance of loss to ASW barriers was estimated at .1, giving a 22 percent chance of being sunk enroute by barriers or open-ocean intercept. However, SEAMIX 1 estimated that a barrier of SSN 688/637 class submarines would have a  $P_k$  of .5, without even considering mines and aircraft. This would raise the enroute  $P_k$  to .57. This figure was used in the sensitivity analysis.

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#### <u>Appendix E</u>

SNA Campaion Acainst the SLOC, Assumptions, Methodology and Analysis DECLASSIFIEL AUTHORITY EC 12851

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Scenarios (U) 1.

(S) Two SNA attack scenarios were developed. In the first, a series raids by 40 Badgers was flown against a target set of 40 cargo ships and 40 tankers (half of them loaded) in the Eastern Persian Gulf and the Gulf of Oman. Western defenses were assumed to be in place. Both anti-ship missiles ASMs) and free-fall bombs were used. The number of attacks was constrained by either Soviet aircraft losses or ASM expenditures. In the second scenario, raids of 50 Badgers attacked peacetime shipping in the same area (roughly 100 cargo ships and 50 tankers) for four days, when the SLOC was assumed to have been closed. Western defenses were not yet in place.

11. Statistical Distributions (U)

(U) There are two standard statistical models used by Navy ordnance planners in the distribution of attacking platforms among targets.*

(U) Maxwell-Boltzmann (M-E) statistics assume that any target is equally likely to be engaged by any attacker. In particular, the prohability of a target ship being hit by k missile salvos is approximated by:

 $f_m(k) = e^{-\frac{k}{2}} \frac{e^k}{k!}$ 

where a = the ratio of attackers to targets.

(U) In Bose-Einstein (B-E) statistics, the likelihood of a ship being attacked by any given salvo is dependent on the distribution of attacks previously made. Specifically, a ship that has been attacked once is more likely to be attacked again, one that has been attacked twice is a more likely target than one that has been hit only once, etc. Mathematically, the B-E distribution of attacks is approximated by:

 $f(k) B = \frac{1}{a+1} \left(\frac{a}{a+1}\right)$ 

a = ratio of attackers to targets.

(U) *U.S. Navy Non-Nuclear Ordnance Requirements (NNOR), Volume IV. NNOR addresses the number of engagements for each of n U.S. platforms under attack by r attackers. This is equivalent to the number of times that each of n merchant ships would be attacked if the target set were struck by r bombers.





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(U) The Mazwell-Boltzmann model represents an ideal distribution of her Div Willer the attacker's assets. By contrast, the Bose-Einstein model approximates a no information, no control case in which some targets are hit repeatedly, while others are left alone. In fact, the B-E model seems to fit some types of combat data, e.g., the distribution of kills among fighter pilots (a few aces, several with 1-4 kills, many with none). Here, however, the M-B model will be taken as an optimistic prediction from the Soviet standpoint, and the B-E will be taken as a lower bound on the expected sinkings.

(8) The DJPP credits most Soviet ASMs with reliabilities of .75. It was assumed that two hits were required per sinking. Thus, the damage from varying numbers of two-missile salvos should have the following distribution:

	Table 11	-B-1 (S)	
Salvos	Miss	Damage	Sini
1	.0625	. 3750	. 5625
2	.0039	.0468	. 9453
3	.0002	.0007	. 9991
4	.0000	.0000	1.0000

This takes into account sinkings resulting from two or more single hits from different salves.

(U) The matrix of Table II-B-1 then was applied to the M-B and B-E attack probabilities for several values of a. The results are presented in Table 11-8-2.

1	abl	e I	1-8-1	2
-	-			-
			A	

Engagement Outcomes (S)

		M-B			B-E	
- 5	Missed	Damaged	Sunk	Missed	Damaged	Sunk
. 33	.727	.046	. 227	.764	.072	.164
. 66	. 528	.069	. 403	.618	.094	.288
1.00	. 380	.07E	. 542	. 516	.100	. 384
2.00	.145	.063	.792	. 348	. 090	. 562

111. The Campaion Against Western Defenses (U)

(5) Calculating 40 ASM-carrying Badgers vs 80 targets yields a value of "a" of .5. This corresponds to a Bose-Einstein Pk of .226. Bose-Einstein statistics were used in the base case of SNA vs defenses to account for confusion caused by Western counterattacks. At 8 losses per raid (20%) the attrition limit of 50 aircraft will be exceeded in 7 sorties. Thus, 80 targets x .226 sinkings/sortie x 7 sorties = 126.7 ship sinkings. Half of the losses would probably be tankers, and half of those would be loaded. Similar calculations were done for the other cases.

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At low altitudes, Badgers are credited with 350 foot CEPs. The aircraft's maximum bomb load is 18 500 kg bombs, but only 10 could be carried from the Crimea to the Gulf without refueling. Four 500 kg bomb hits were assumed needed for each kill. This resulted in  $P_k$ s of .24? for two 9 bomb strings and .166 for a 10 bomb attack against a 1000' . 250' ship. Aircraft with free-fall bombs were assumed to attack only loaded tankers.

JV. Attacks Before Defenses Were in Place (U)

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(5) We assumed that 50 Badgers would attack each day until shipping stopped moving in the SLOC. In response to the threat, the shipping was reduced from 150 ships the first day to 75, and 50 on subsequent days with all movement halted by the fourth day. Moreover, it was assumed that tankers would continue sailing the longest, so that the proportion of tankers in the target set rose from one-third the first day to seventy-five percent on the third day. The results are shown in Table 11-B-3.

#### Table II-8-3

#### BASELINE CAMPAIGN RESULTS (S) 50 BADGER RAIDS

M-E

E-C

fia v	in PG/ Gulf of Doman	ċ	; Tankers	Total Damaged	Tota'i Sunk	lankers Sunk	Total Damaged	Totai Sunk	Tankers Suni
1 2 3	150 75 50	.33 .66 1.00	33 50 75	6.9 5.7 <u>3.8</u> 15.9	34.1 30.2 27.1 91.4	11.4 15.1 20.3 46.E	10.8 7.1 <u>5.0</u> 22.9	24.6 21.6 19.2 75.4	8.2 10.8 14.4 33.4

(5) Several excursions also were examined. In general, the Soviets could sink more ships in a longer, less intense campaign, but they could not be certain that the targets would remain available. On the other hand, due to communications problems and the time needed to re-route shipping, it is doubtful that the SLOC could be closed in less than 3 days. Thus, the above scenario was used as the base case, with M-B weapons distribution as a proxy for the lack of Western opposition.

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#### C. MINING THE STRAIT OF HORMUZ (U)

1. Summary (U)

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(U) The shipping route from the Persian Gulf is frequently considered very vulnerable to a long term closure by mining the Strait of Hormuz. This is not the case. The Strait could probably be covertly mined by submarines to a low threat level, and possibly mined to a high threat level in a large scale surprise air attack. Some tankers would be damaged and sailings would probably stop. However, the Strait could be reopened without about two weeks by helicopter mine sweeping forces. Only a complete breakdown in defenses would allow the reseeding operations needed to sustain a long term closure.

#### 2. Background (U)

(S) The Strait of Hormuz is a deep and relatively wide choke point. It is navigable to supertankers over a width of 25 miles at its narrowest point. A four mile wide main shipping channel lies close to the Oman Peninsula on the Arabian side of the Strait. (See Figure 11-C-1.) The channel is marked to provide traffic separation, and is at least 300 ft. deep for inbound traffic and greater than 350 ft. deep for outbound traffic. This distinction is important because bottom mines are ineffective deeper than 200 ft. (See Figure 11-C-2.) The marked channel is used because it is the snortest route into and out of the Gulf and not because of any serious navigation constraints nearer the Iranian side of the Strait.

(U) Over 90 percent of the crude oil and petroleum products produced in the Persian Gulf passes through the Strait of Hormuz. lankers currently carry about 20 million barrels per day (MB/D) out of the Fersian Gulf. An average of 40 tankers pass through the Strait of Hormuz each day evenly distributed between inbound and outbound traffic. Inbound supertanker traffic is riding high under light ballast conditions. Outbound traffic is ladened, with drafts of 50 to 66 ft. common (150,000 to 260,000 dead weight ton tankers respectively) and occasionally with drafts as deep as 94 ft. (500,000 dwt tankers).

(U) An analysis of traffic patterns produced by the Naval Ocean Surveillance Information Center (NOSIC) indicates about twice as many merchant cargo ships of 1000 tons or more transit the Strait of Hormuz on any given day as tankers. The proportion of cargo ships to tankers is expected to increase in the 1980s as the Persian Gulf states buildup their industrial infrastructures and port facilities.

(U) The effects of a systematic mining campaign designed to exact a large toll on ships sailing through the Strait would be potentially disastrous to the west in the absence of effective mine countermeasures.

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#### Soviet Mining Threat (U)

(S) Mine warfare is one field of naval warfare where a Soviet claim to preeminence is justified. Intelligence projections credit the Soviet Union with over 190,000 mines in its stockpiles. They are estimated to have the specialized mine manufacturing facilities and technical personnel to produce enough modern mines to support any operation undertaken by them or their client states.

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(S) There are three classes of Soviet mines -- moored mines, bottom mines and deep moored mines -- that pose a threat to surface ships. Moored mines have buoyant cases containing the sensors, firing devices and explosive charges. The cases are attached by tethers to anchors to keep them from drifting. The depth at which the cases will float is preset before launching.

(5) Bottom mines, as the name implies, lie on the bottom. These mines bury themselves under silting conditions or in soft mud, which restricts or negates the effectiveness of minehunting operations. Bottom mines have the most sophisticated sensors including passive acoutic and magnetic induction. U.S. intelligence also credits the Soviets with having a pressure firing mechanism although this device has never been recovered. Neither NATO nor the Warsaw Pact have the capability to influence sweep mines equipped with pressure firing devices except by the use of guinea pig ships. Known Soviet bottom mines are effective only when laid at depths no greater than 200 feet, an important restriction pertinent to the Strait of Hormuz.

(S) Deep moored mines, primarily for anti-submarine warfare, "are the newest development in the Soviet inventory. One type of deep moored mine, the rising vehicle mine (RVM), is also credited with antisurface ship capabilities. The RVM differs from regular moored mines in its ability to discriminate target depth by an active sonar sensor, and by its mobility. When the mine's passive and active acoustic sensors are satisfied that a valid target is present, the mine detaches from its tether and a rocket motor ignites. The mine rises rapidly under rocket propulsion and explodes either on contact with the target, or at the previously measured depth of the target ship.

(S) Soviet anti-ship moored mines are larger than Soviet submarine torpedo tubes and can be laid only by aircraft or surface ships. Soviet bottom and deep moored mines can be laid by submarines, aircraft or surface ships. The Soviets do not have dedicated naval surface minelaying ships. In general, all older classes of cruisers, destroyers and small combatants had a minelaying capability. This philosophy is changing however, and many of their newer classes of major combatants are not equipped with mine rails. Soviet merchant ships and stern trawlers are not known to have specialized minelaying equipment and have never been known to engage in minelaying drills. Because of this, U.S. Naval Intelligence rates the threat of minelaying by commercial Soviet vessels as possible but remote.





(5) Soviet Naval Aviation (SNA) has practiced aerial minelaying for a number of years and continues to emphasize this mission. A few Long Range Aviation (LRA) aircraft also practice minelaying. See Table II-C-1.

(S) Ine most probable classes of submarines that would be used as minelayers are the Foxtrot and its apparent replacement, the lango. These submarines have large mine (torpedo) capacities. Ine Foxtrot has proven to be a reliable submarine capable of being maintained on distant deployments for extended periods of time. The November SSN class also has a large capacity but few have ventured far from Sover homewaters recently. See Table 11-C-2.

(5) The Soviet capability to mine the Strait of Hormuz is limited only by their access to the area over the period of time needed to implant the number of mines they oecide to use. Their ability to sustain a mining threat is determined by the ability of the defending forces to prevent reseeding the field.

(5) To obtain an appreciation for the Soviet forces needed to carry out a mining campaign in the Strait of Hormuz we assumed that either a harassing mine threat of 10% or a dense minefield of 50% threat would be initially laid.* Table II-C-3 shows the number of mines needed for these threats.

(5) Most modern Soviet naval mines are equipped with long arming delay clocks or ship counters. Some mines have both. These devices make minesweeping more difficult and the results less certain. The RVM mine shown in Table 11-C-3 has an arming delay clock that can be set from 0 to 21 days. The large bottom mine has an arming delay clock of 12 hours to 10 days and a ship counter settable from 1 to 21 ship counts. The representative threat levels shown in Table 11-C-3 are calculated with all the reliable mines armed and set on a ship count of one. The actual threat level encountered at a given time would depend on the mine layer's selection of arming delays and ship count settings.

4. Submarine Delivery (U)

A Soviet submarine mining campaign in the Strait of Hormuz would require a secure forward base in sheltered waters. For this paper we assume that Aden is the forward logistic base available to the Russians.

From the time a submarine mining campaign is approved by the Soviet High Command until the first mines could be expected in the Strait is 13 days. The mine threat buildup for one submarine is shown in Figure II-C-3. A more rapid threat buildup would of course be possible with more submarines. Two submarines could deliver the 10 percent threat in one sortie if each retained only one torpedo for self-defense.

*Threat is the calculated probability that a ship transiting a mined area passes within the damage range of a reliable mine ASSIFIED AUTHORITY EO 1295F

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### Table II-C-1

		Aircraft Type	SNA ar Inver 1978	nd LRA ntory 1985	Represen- tative Pavload (kg)	Range with Payload (nm)	Tota <u>Type Mine</u> Small Bottom <u>Mine</u>	Number of Ea that can be ( Large Bottom Mine	ich <u>arried a</u> / Deep Moored <u>Mine</u>	
	Bombers	Badger A <u>b</u> / and G	402	295	9,070	1,300	18	Ģ	я	
ے ج ج		Blinder A <u>b</u> /	69	45	9.070	1.500	18	9	8	4
C-6	ý.	Bear A	32	0	15,875	3.900	16	я	9	Ĥ
5	r i	Backfire B	97	340	9.435	2,900	18	٥١	6	PH
	ASW	Bear F <u>b</u> /	25	40	8,520	3,950	16	8	9	
		May	55	55	5,400	1.925	6	3	Γ,	,
		Mail	98	80	7,940	1.100	11	4	4	

SOVIET AIRCRAFT MINE-CARRYING CAPACITIES

a/ Assuming only one type carried. For some mine/aircraft combinations, the total number is governed by sizes; for others, it is governed by weight.

b/ Aircraft noted laying mines.

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#### Table II-C-2

ESTIMATED MINE CARRYING CAPACITIES OF SOVIET SUBMARINES a/

Class	inventory		(All Tubes 57 (Mil Tubes 57 (m Diameter)		Mine Capacities	
<u>C183:</u>	1978	1985	Forward	Aft		
Charlie-11 b/	3	5	t	None	24	
Charlie-1 b7	10 .	11	6	None	24	
Papa b/	1	1	£	None	24	
Echo-II b/	25	29	6	2	16	
Juliett b/	16	15	6	None	12	
Alfa c/	2	13	4	None	24	
Victor-11/						
New Class SSN	5	28	t.	None	36.	
Victor-1	16	16	£	None	36.	
Echo d/	5	5	6	2	16	
November	12	6	٤	2	40	
Janoo	3	23	£.	4 .	44	
Bravo	4	4	4	None	£	
Foxtrot	60	51	ċ	4	44	

a/ Defense Intelligence Projections for Planning, General Purpose Naval Forces, DIA, August 1976.

b/ Soviet SSG/SSGNs have no torpedo loading hatches and very limited stowage for mines.

c/ Not yet operational. d/ May have been given torpedo reload capability during conversion.

Table 11-C-3

#### MINE THREAT

Inreat Level a/	RVM	Type Mine b/ Large Bottom Mine	Remarks
10 percent	64	20	Close Hormuz outside 20 fathom curves.
50 percent	526	387	Shore to shore coverage.

Threat level depends on the number of activated mines ready to a/ explode. The threat level will change under various assumptions of delayed arming and ship counters in use.

RVM mines in deep half of Strait and bottom mines in shallow b/ half of Strait.

11-C-7

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The 50 percent threat would take 25 submarine sorties. Because one sortie takes about 25 days, round-trip, including loading and mine laying, even four submarines committed to a mining mission would take over five months to insert the number of mines if no countermeasures were used.

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(S) The RVM does have a deep moored capability and could be laid in the Gulf of Oman without penetrating to the Strait of Hormuz. However, the Gulf widens fairly rapidly to over 100 nm and the falloff in threat from mining wider channels is rapid, as shown in Figure II-C-4.

5. Aircraft Delivery (U)

Figure 11-C-5 shows the distance from various airfields in the Persian Gulf area to the Strait of Hormuz. Neither Mail nor Badger aircraft could take the circuitous route out of Aden around the southern Arabian Peninsula with full mine loads.

The route that may be the most promising is from Mary, USSR, via Afghanistan and then across the extreme southeastern edge of Iran. Even on this route, the Iranian F4s based at Bandar Abbas would consitute a high deterrent to repeated overflights, although a suprise overflight might be successful. Also, there are over 40 aircraft shelters at the Iranian base being constructed at Chah Bahar, so that additional aircraft could be safely based there. The potential also exists to establish land based defenses in Oman.

Figure 11-C-6 shows the number of sorties needed by the 181 various types of aircraft to provide the 10 percent and 50 percent threat level. The low threat level can be accommodated with very few aircraft and accomplished within one day. To provide a yardstick of the level of effort needed to implant the 50 percent threat level, we will look at the commitment of all of the range capable attack aircraft in the SNA Black Sea Fleet inventory as shown in Table 11-C-4. At a 75 percent aircraft availability and one mission per day, the 50 percent threat level can be implanted in two to three days in 1978 and four to five days in 1985 using the SNA aircraft shown in Table II-C-4. The significant projected reduction in attack aircraft in the SNA Black Sea Fleet accounts for the increase in time between 1978 and 1985 to plant the 50 percent field. Obviously, the same threat could be delivered faster if the Black Sea fleet were reinforced. To deliver the 50% threat in a single sortie would require all of the projected 1985 SNA Backfire B force.

In summary, a low level mining threat could be initially established by submarine, probably covertly. A high level threat would require inordinate numbers of submarines committed for long time periods. In either case, submarine reseeding operations would need a secure forward base or resupply operations that were either not detected or subject to attack. The likelihood that either of these conditions would be sustained in the Indian Ocean area is low because of the importance of oil SLOC and the number of assets the West and the Third World would

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## Table II-C-4

BLACK SEA SNA INVENTORY 3/

Mine Capable		
Attack Aircraft	<u>1978</u>	1985
Badger A	16	0
Badger G	6	0
Blinder A	20 .	0
Backfire B	<u>18</u>	<u>35</u>
Totals	60	35
ASW Aircraft		
Bear F	2.	5
May	2	2
Mail	<u>30</u>	23
Totals	34	30

a/ Defense Intelligence Projections for Planning, General Purpose Naval Forces, DIA, August 1978.

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be willing to commit to keep the SLOC open. Aircraft delivery of mines into Hormuz might be initially successful if surprise was complete. Surprise during the large scale operations needed for the 50 percent threat level or beyond the first day of operation is less likely. Even limited land based defenses or the use of a missile ship would make reseeding a very hazardous and expensive operation.

Mine Countermeasure Capabilities (U)

(5) The RH53D helicopter is the main shallow water mine countermeasure platform in the U.S. Navy. The Navy has one squadron with 21 of these helicopters in its inventory. Associated with this squadron are two Airborne Mine Countermeasure (AMCM) units that provide logistic and maintenance support to the countermeasure gear. Each AMCM unit, together with six RH53Ds, can be air deployed and operated as an independent detachment on board a large-deck mother ship (LPH, CVA, LHA) or from a base ashore. An AMCM Detachment with six RH-53D helicopters can be deployed to the Persian Gulf by C-5 aircraft and ready for minesweeping in about 7 days.

(S) The RH53D helicopter is capable of sweeping moored mines to a maximum depth of 60 feet. It can influence sweep magnetic and acoustic bottom mines, but the sweep gear has limited capabilities compared to existing surface minesweepers. The RH-53D is currently being equipped with gear to sweep rising vehicle mines (RVM).

(S) The Navy has 3 active and 22 reserve ocean minesweepers (MSOs). The MSOs are acknowledged to have significant maintenance problems and they are difficult to support; all are over 20 years old, and are scheduled for retirement in the mid-1980s. There is concern within the Navy, however, that these ships may not last until scheduled retirements. The deployment time to the Persian Gulf from the U.S. is about 50 days if heavy weather or mechanical breakdowns do not occur.

Iran has six RH-53D helicopters and five surface minesweepers. The RH-53D unit is not yet operational and would need U.S. pilots, maintenance and mine countermeasure personnel to be effective. The Iranian surface minesweepers are ineffective because their sweep gear is non-operational. Iraq also has five surface minesweepers that are judged to be ineffective by the intelligence community because of the Iraqi's lack of basic seamanship and navigation skills. The material condition of these sweepers is unknown. France maintains three coastal mixesweepers in the Indian Ocean area in Djibouti and Diego Suarez, Malagasy Republic. The proficiency of these MSCs is rated average to poor and they apparently do not have a minehunting capability for bottom mines.

7. Sweeping a 10 Percent Threat Minefield (U)

(5) The first day of mine surveillance would provide a reasonably accurate feel for the extent of the field. The area surveyed would



be about 4 nm wide and 10 nm long and would contain, at most, 20 activated mines. With a surveillance capability of 43 nm² per day or a sweep capability of 11.5 nm² per day (steady-state), one AMCM detachment can survey a channel 5 nm long and 4 nm wide daily and expand the initial channel 2000 yards in width per day by utilizing half their effort in surveillance and half in sweeping. A 99% new channel clearance factor would require double sweeping so a new 2000 wide channel would be available every other day. See Figure 11-C-7.

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Sweeping a 50 Percent Threat Minefield (U)

At the 50 percent threat level, one AMCM detachment is capable of opening and sustaining a channel in the minefield 6000 yards in width in 19 days with an initial 2000 yard wide channel opened in about 10 days. The time line sequence is shown in Figure II-C-8. Again a double sweep of each channel is needed to achieve a 99% mine free probability. At the end of the 21 day delayed arming period, previously swept channel areas would not have to be surveyed daily and clearance of the entire RVM field would be undertaken if desired. The remaining field covers 115 nm² and would take an additional 20 days to clear to the 99% level.

9. Clearing Bottom Mines (U)

We have not addressed clearing the bottom mines in the shallow portions of the Strait of Hormuz - with good reason. An AMCM detachment would have difficulty determining the extent of a minefield with bottom mines because of the lack of a minehunting capability. The RH-53D does have a limited capability to sweep bottom mines equipped with acoustic and/or magnetic sensors if the sensors are set on sensitive actuation. The use of delayed arming mechanisms and ship counters would complicate the acoustic/magnetic sweeping. In all probability the clearing effort would encompass several methods simultaneously. Such methods might include:

> Emergency repair of Iranian minesweepers including jury-rigging portable minehunting sonar on them.

Utilizing local fishing vessels equipped with depth finding sonar to search shallow areas for mine cases or pulling nets and drag lines to locate the mines if the bottom mine sensors were on course settings.

Sweeping channels with Iranian RH-53D helos if acoustic-magnetic mines were used with sensitive settings. Once the extent of the Minefield was known, one AMCM detachment could sweep a channel about 1500 yards in width twice each day.

Sailing guinea pig ships through marked channels that have been substantially cleared to verify the safety of shipping in the channel.

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There are several reasons for thinking that a supertanker filled with ballast might make a good guinea pig ship:

- Supertankers are designed for high liquid loading and a rupture in the tanks below the waterline would not be critical to stability.
- The engineering spaces are located well aft with very short shafts and a high degree of automation. The long tank section of the ship provides a large target footprint before the critical after section of the ship is reached.
- The massive size of a supertanker could absorb a large explosion without transitting high accelerations throughout the ship. It is the acceleration factor that dislodges boilers, propulsion machinery and main shaft bearings (and people) and that causes the most sustained damage if the keel remains intact.
- There are drydock and emergency repair facilities in the Persian Gulf for supertankers.

Since the deep portion of the Strait of Hormuz could be opened rather quickly, bottom mines in the shallow areas would not constitute a threat that would have to be swept immediately.

In summary, it appears that the Soviet Union might be successful in carrying out a surprise mining in the Strait of Hormuz. This could be countered within about two weeks and the short disruption of tanker sailings would not threaten oil imports. A sustained mining campaign would require reseeding operations that are feasible only with a breakdown of defensive forces.

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SECTION III

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LESSER PERSIAN GULF CONTINGENCIES 1/ (U)

(U) Although the most extreme military threat to Western interests in the Persian Gulf would probably be a Soviet invasion of Iran, other contingencies are more likely and more immediately threatening. Local insurgencies and conflicts may not only endanger governments friendly to the West, but may also threaten the physical flow of oil through destruction of facilities and labor disruptions. In addition, threats to the oil-producing countries may cause them to make decisions that threaten the stability of world oil markets. For example, if Saudi Arabia's security were to become dependent on the good will of the SovietUnion, the Soviets could gain a decisive voice in OPEC pricing policy.

(U) Besides endangering Western friends and oil flows, local conflicts may also provide the Soviets with clients who are likely to grow increasingly dependent on them for arms, training, and perhaps even protection, and who may naturally have or acquire objectives hostile to ours. Thus, instability provides the Soviets with their principal opportunities to establish a presence and expand their influence, while also undermining the overall U.S. position in the area.

(U) Given the potential adverse impact of local conflicts on U.S. interests, the United States has a strong interest in preserving a reasonable degree of stability in the area, a stability that does not depend on Soviet military power or on regimes hostile to the West.

(U) It is obvious that regional stability rests on more than military power alone. Indeed, the potential causes of instability in the Persian Gulf are so abundant--including bitter ideological rivalries, numerous territorial disputes and irredentist claims, the clash between modernizing trends and traditional institutions, long-standing religious tensions, ethnic hatreds, and simple personal ambition--that it is surprising there have not been more frequent outbreaks of open warfare. In addition to the social and political factors identified in the introduction, geographic and military factors also help to offset the sources of local turmoil and thus contribute to stability. (First, the two states that are committed to radical change--- Iraq and South Yemen--are separated from each other by a large expanse of territory controlled by moderate regimes. This makes it difficult for them to cooperate effectively. For example, Iraq--the country most capable of supporting or stirring up turmoil--must go through Saudi Arabia or Kuwait in order to get to the lower Gulf or Peninsula Coast

(5) Second, the geographic juxtaposition of states often puts a more powerful neighbor on the border of at least one of any two natural combatants. For example, Saudi Arabia borders two natural rivals, North

I/ We are defining "Lesser Contingencies" as those contingencies not involving a Soviet invasion of Iran. The principal military difference is the size of the Soviet forces involved: i.e., the Soviets could conceivably commit up to 23 divisions to an invasion of Iran within about a month, but only about three or fewer to lesser contingencies outside Iran.

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and South Yemen; Iran borders Iraq which borders a natural rival, Saudi Arabia; the Soviet Union borders Iran which borders a natural rival, lraq. The significance of this geographic landscape is that it has created military balancers on the borders of contentious or rival states. Assuming the balancers are interested in preserving stability-that is, they favor the existing arrangement--their presence serves to deter local actors from overt aggression. Should the balancer not favor stability or should the balancer seem unwilling or incapable of playing the role, then the chances for conflict would increase. Given its direct impact on neighboring Iraq and its ability to project limited forces throughout the region, Iran has played the most important regional balancing role since the British withdrawal from the area. With Iran no longer willing or able to play this role, there is no local constraint on Iraq--now clearly the most dominant military power in the area. To counter Iraqi coercion, and the impluse of moderate states like Saudi Arabia and Kuwait to accommodate themselves to it, the US may have to assume more direct military responsibility in the area.

(5) Although this section focuses on conventional wars, the Soviet Union is currently extending its influence in the Persian Gulf and adjacent regions through support for counterinsurgency operations in Ethiopia and Afghanistan, and by the PDRY in its efforts against North Yemen. This pattern will probably continue because these lower-level activities entail acceptable risks and a reasonable promise of success, whereas direct Soviet support or involvement in conventional conflicts threatens possible confrontation or conflict with the United States. Near-term options might include support for a revival of the Guerrilla war in Oman, support from Afghanistan for rebels in Pakistan, support for pro-Soviet regimes that might manage to seize power in places such as North Yemen, or possibly indirect or covert support for a faction in Iran should civil war occur.

(U) The present analysis omits such cases not because they are unimportant but rather because any direct role for U.S. forces in such contingencies may be unlikely and even counterproductive 1/. Furthermore, defense program decisions are not likely to have any direct effect on our ability to influence these outcomes.

(U) This is not to say that the United States could safely ignore domestic insurgencies, rebellions, or separatist movements in PG countries that are important to us. We have vital interests in the region, and we want both to minimize Soviet opportunities and the emergence of anti-western regimes in the area.

(U) Moreover, it should be noted that external conventional forces could play an important--perhaps decisive--role even in these unconventional cases. For example they could close off the flow of arms across borders thoroughly enough to have a decisive impact on the outcome of internal wars. The terrain and climate of some of the

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1/ Our intervention could undercut the nationalist base and legitimacy of the side we support, while building the appeal and perceived right to rule of the side we oppose.

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Persian Gulf states may make this indirect effect of conventional forces more significant than it would be, for example, in the jungles of Southeast Asia or the mountains of Iraq or Greece. Indeed, the Dhofari rebellion in Oman was defeated in large part by the ability of Iranian forces to halt the flow of supplies from South Yemen. In a case of that kind, external conventional assistance, for example Cuban or Soviet air defenses, could have a significant, if indirect, effect on the strength of internal rebels in Oman.

(U) Outside conventional forces might also have significant indirect effects on the outcome of internal wars. Since the ability of countries to support rebellions across their borders depends ultimately on their ability to defend themselves, the ability of third countries like Cuba, Iran, and Egypt to intervene in places like Ethiopia, Oman, and North Yemen depends on their security from conventional threats to their home countries.

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(U) For these reasons, this section's analysis of the conventional military balance and the ability of outside actors to influence it has relevance for the more likely but lower level unconventional warfare contingencies.

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A. LOCAL WARS (U)

Despite the large number of different countries in the Persian Gulf/Arabian Feninsula region, the number of potential conflicts is limited by geography. This section will focus on four that seem most probable and are most likely to involve the Soviets, directly or indirectly:

- Iraq vs. Iran
- -- Iraq vs. Saudi Arabia and/or Kuwait

-- South Yemen (PDRY) vs. Saudi Arabia

-- PDRY vs. North Yemen (YAR) 1/

The following table summarizes the total forces of these states. (For a more detailed comparison of the opposing forces, see Appendix A.) Note that the Iranian revolution has had a major effect: previously, there was a rough balance, but now Iran's effective strength is much less than Table 1 would indicate, and Iraq has become correspondingly more dominant.

### Table III-1 (ST

### TOTAL FORCES (U)

	<u>Iran</u> a	/ <u>Iraq</u>	Saudi Arabia	<u>Kuwait</u>	PDRY	YAR
Army Personnel Medium Tanks APCs	280,000 1,740 2,545	195,000 2,020 2,000	80,000 <u>b</u> / 320 920	8,500 150 130	20,000 225 225	37,500 <u>c</u> / 250 500
Artillery (over 100 mm)	1,230	860	215	18	130	100
Air/Air Defense Personnel Fighter Aircraft	112,000 394	30,000 386	6,000 137	950 45	1,300 80	700 28
Navy Personnel	32,000	4,000	1,500	30	300-500	700

a/ Pre-revolution figures.

D/ Includes 35,000-man National Guard.

 $\vec{c}$ / Recent intelligence reports suggest the number of personnel

might be considerably smaller.

1/ With significant political changes, wars might also be possible between North Yemen and Saudi Arabia or Iran and Saudi Arabia (although Iran would have difficulty projecting and supporting large forces across the Gulf.) Wars between the PDRY and Oman or between Afghanistan and Iran or Pakistan could have significant political ramifications in the Gulf, but these conflicts are most likely to have the character of drawnout guerrilla wars.

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Any assessment of the military balances between the potential antagonists must necessarily be rough. Aside from uncertainties about actual size of some of the forces, comparisons of qualitative factors such as morale, training, leadership, and combat experience can only be estimated in general terms.

### Iraq-Iran (U)

A conflict between Iraq and Iran during the unstable 15 phase Iran is now passing through would undoubtedly favor Iraq. An Iranian decision to deploy a substantially reduced military force in the future would also favor Iraq in any future conflict. Table 1 is based on the Iranian armed forces as they existed under the Shah. It gives a rough comparison between the military capabilities of the two countries that might once again occur if the situation in Iran stabilizes and a decision is made to maintain an armed force comparable to that under the Shah. Should this occur, the assessment that Iran held a slight advantage over Iraq in overall military power would once again obtain. Realistically, however, this possibility seems remote: Iran's military is in disarray, a large portions of the senior officer corps has been purged, and the new regime favors a strongly reduced military force. Furthermore, the effectiveness of Iran's forces will be low without extensive U.S. help.

#### lrag-Saudi Arabia/Kuwait (U)

Iraq greatly outnumbers Saudi Arabia and Kuwait in every weapons category. With superior mobility and better initial positions, Iraq could achieve even greater initial advantages against the widely dispersed Saudi forces. The Iraqis are also probably more capable of effective combined arms operations and certainly have more combat and logistic-support experience.

The Iraqis might initially commit only 2 Mechanized Divisions and 2 Armor Brigades--withholding 4 Mountain Infantry Divisions and 2+ Armor Divisions (or 8 Armor Brigades) until Iranian, Syrian, and Israeli intentions became clear. Nonetheless with the Saudis facing difficult and time-consuming redeployments, Iraq would probably still have major advantages even in the first week as Table 2 indicates. However, given the reduced force levels involved, third country contributions would become more important.

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## Table III-2 Lat

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SAUDI/KUWAITI-- IRAQ FORCES ALONG THE BORDER (U)

	Sa	udi/Kuwa	ait		
Power 1	<u>M-Day</u>	<u>M+7</u>	11+14	Irai <u>H-Day</u>	qa/ M+7
rersonnel Tanks APCs Artillery over 100mm	8,500 150 130 18	17,100 150 180 18	21,300 22( 23( 4E	15,500 240 370 63	40,000 774 466 158

<u>a/</u>

lrag could deploy a larger force--including perhaps 1,000 tanks--by M+7. However, it would probably be reluctant to do so until the intentions of her other neighbors became clear. Figure 2 of the executive summary assumes the larger force.

SY Given this force superiority, the favorable terrain, and The short distances involved (Kuwait City is 50 miles from the Iraqi border), Iraq could probably seize Kuwait in a matter of days. 1/ Iraqi forces could probably also penetrate into Saudi Arabia and threaten Saudi oil fields (approximately 300 miles from the Iraqi border 2/) within a week. However, the lack of cover and the existence of only two roads (with off-road movement nearly impossible in the approaches to the oil fields) would make Iraqi movement in Saudi Arabia extremely vulnerable

# South Yemen (PDRY) - Saudi Arabia

(54 Despite an advantage in manpower and equipment, Saudi Arabia would not have an obvious edge in any conflict with the PDRY. Although the two countries have a common border, on which the Saudis have deployed about 1/5 of their ground forces and 1/10 of their air force, the border area is separated from any significant population or economic centers by hundreds of miles of very formidable desert. This obstacle would make it virtually impossible for the PDRY to carry out a conventional force attack of Saudi Arabia from South Yemeni territory. In fact, if the PDRY wanted to attack Saudi Arabia in a non-guerrilla fashion, they would probably have to go through North Yemen to do so.

أكلأ The bulk of PDRY forces are deployed opposite North Yemen, and their movement to the Saudi border would be difficult given the terrain and absence of roads. Thus, conflicts between the two are likely to grow either out of Saudi financing of guerrilla warfare by border tribes to subvert the PDRY regime or a PDRY move against the YAR or against the

1/ At its most distant points Kuwait runs about 100 miles northsouth, by 100 miles east-west. Kuwait is little more than a city-state, with Kuwait city being the center of all social, political, and economic life and containing about half of the total population.

2/ This distance assumes the Iraqis come through Kuwait to get to the Saudi cil areas. If the Iraqis go around Kuwait, they will have to travel approximately 450 miles to threaten Saudi oil.

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Saudi border garrison. In this barren terrain, conventional air power could have a significant impact on the outcome even of a guerrilla campaign.

South Yemen (PDRY) - North Yemen (YAR)

(5) Quantitatively, there is rough military parity between North and South Yemen, with the PDRY holding a distinct edge in jet fighters while the YAR has an apparent edge in manpower and a slight advantage in equipment. The PDRY's advantages in air power and various qualitative factors make it more capable militarily than the YAR as evidenced in the recent conflict. Even with this advantage, however, the difficult terrain and the PDRY's poor logistic capabilities make it unlikely that the PDRY could execute a major offensive deep into the YAR without foreign assistance.

Given their mutual difficulty in waging conventional war, conflict between the two is likely to take the form of extended, lowlevel combat, including guerrilla operations with each attempting to use tribal groups to subvert the other. Overall, the PDRY is stronger and somewhat more stable than the YAR.

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### B. THIRD COUNTRY CONTRIBUTIONS TO PERSIAN GULF CONTINGENCIES (U)

Many countries have the potential and the inclination to influence events in the Persian Gulf. Their actions could include direct military support, or indirect measures such as providing bases or overflight rights to non-regional contributors. Direct support could include:

- -- Logistics in the form of specialized personnel (mechanics, engineers), perhaps also spare parts, munitions, or even tactical mobility forces.
- -- Combat air support in the form of pilots, air defense forces, or combat air forces.
- Combat ground forces, most likely in small numbers, to help defend or hold critically important areas or to provide crucial battlefield capabilities.

(S) The potential role of Third countries such as Turkey, France, Egypt, or Jordan in Persian Gulf conflicts is too uncertain to be counted in estimating U.S. requirements for Persian Gulf contingencies. Nevertheless, it would be a serious mistake to ignore this role because Third country contributions could reduce the risk to committing available U.S. forces directly. Furthermore, in many circumstances local actors may be more capable of acting than the United States, their threats may be more credible, and their ability to deter may accordingly be more certain (c.g., Britain in the 1961 Kuwaiti crisis, Israel in the 1970 Jordanian crisis). Finally, even where we may want a U.S. capability to hedge against the uncertainty of Third country actions, in a global crisis we may prefer to have these U.S. capabilities available elsewhere.

(5) Table 4 summarizes the kinds of contributions Third countries could make in Persian Gulf conflicts of particular interest to the United States. 1/2/ The potential contributions of Third countries shown in the table represent rough intelligence guesses. These estimates are necessarily highly judgmental and, while to some extent they reflect physical limitations that can be estimated with some precision, they depend on predictions of political decisions that are inherently uncertain and dependent on specific circumstances. The table is an estimate only of the kind of contribution Third countries might make if they were to become involved. In most of the cases shown, the chances of actual involvement are probably low.

1/ Because Iraq is a direct participant in two FG conflicts, it has not been included on the table. However, it should be noted that Iraq does have the capability (including weapons, special force and anti-armor battalions, and lift to influence the other wars or domestic insurgencies in the region.

2/ Note added in proof: there is no Table 3 in this section.

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Impact of Third Country Contributions (U)

(8) The impact of third country military contributions will obviously differ depending not only on the size and nature of their military commitment but also on the size and ouality of the local forces. In each of the four conflicts shown in the table, only a few countries are likely to have a decisive impact:

 $(\delta)$  Iran vs. Iraq. Because of the capability of the main antagonists, the only non-super powers that could have a significant impact are lurkey and Israel, which might present diversionary threats to Iraqi ground and air forces respectively. The estimated Pakistan, French and British contributions, would be important but not decisive unless they had greater-than-expected qualitative superiority or psychological effects.

(8) Iraq vs. Saudi Arabia. The most significant impacts in this case would be those that would come from Jordanian, French, and U.S. ground forces, Israeli air forces or Egyptian ground and air forces;

- British and French forces would be extremely light and could have serious difficulties opposing armored forces, even Iraqi ones.
- Jordanian forces would be effective but not large enough to be decisive.
- Egyptian forces would be large enough and heavy enough, but they would have difficulty getting to Saudi Arabia in time, and difficult, supporting their Russian-supplied equipment.

Israeli air forces could be effective against Iraq if no other Arab opposition were encountered, but Israeli air power alone could not prevent Iraqi seizure of Saudi oil areas.

(%) While third country support to Saudi Arabia may be critical to their defense, it should be noted that the presence of foreign ground forces on Saudi territory, even for purposes of "mutual assistance," may be regarded as threatening by the Saudis. The United States could be particularly important in determining Saudi willingness to accept other foreign assistance. Indeed, the presence of Egyptian forces on Saudi territory, even in mutual support, could te almost as threatening as an Iraqi invasion if there were not some very good guarantees that they would eventually leave.

(5) Saudi Arabia vs. South Yemen. Of the countries that might contribute in this case, only Cuba, France and, perhaps, Iran or Egypt could do enough to be decisive in either promoting or preventing the kind of prolonged guerrilla war that might destabilize the Saudi or PDRY regimes.

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PDRY vs. North Yemen. Significant contributions in 151 this case might come from Egypt, Cuba, Iraq, Jordan, and, above all Saudi Arabia.

(5) In many cases the ability and willingness of third countries to intervene will depend on the actions and capabilities of the superpowers. The most important of these actions would be:

-- Assurances against direct threats to the security of the Third country from its neighbors or from the other superpower. Turkey, because the Soviet Union is one of its neighbors, would be particularly dependent on such assurances. U.S. support for lsrael and Jordan in the 1970 Jordan crisis took this form.

LOCs. This would be particularly important for projection of Egyptian or Cuban (and to some extent British and French) forces to the Persian Gulf.

Assurances against the danger of escalation, particularly the danger of direct intervention by the other superpower in the Gulf. For example, a Cuban commitment of forces could become very risky if the United States were to intervene directly on the other side. (The balance of U.S.-Soviet projection capabilities, discussed below, would be important in this connection.)

(5) Table 5 portrays--for illustrative purposes only--an estimate of the potential impact the above assurances could have on, for example, Egyptian and Jordanian contributions to Saudi Arabia prior to or during an Iraq-Saudi war.

### <u>Table 111-5</u> (S)

EGYPT/JORDAN GROUND FORCE CONTRIBUTIONS TO SAUDI ARABIA IN IRAO-SAUDI ARABIA WAR a/ (U)

	No U.S. Assurances	Egypt With U.S. Assurances	(Residuai Forces)	No U.S. Assurances	Jordan With U.S. Assurances	(Residual Forces)
Army Fersonne	1 23,000	37,500	282,500	3,200	13,600	44,100
Tanks	155	385	1,815	140	245	415
APC s	305	560	1,840	80	320	615
Artiller	<b>y</b> 70	130	1,725	70	115	195

a/ These estimates are necessarily only guesses. Intelligence can not predict how third countries might respond to hypothetical U.S. assurances. If anything, however, the residual forces indicated above suggest the estimates of the larger Egyptian/Jordanian force contributions are conservative.

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C. U.S. AND USSR CONTRIBUTIONS (U)

(5) U.S. and USSR direct and indirect contributions to local conflicts in the Fersian Gulf could potentially be much preater than those of other third countries even in purely military terms. Moreover, U.S. or Soviet intervention also is likely to have far greater psychological and political impact than other third country intervention or assistance. Superpower intervention is likely to raise the morale of the side receiving this support and undermine the confidence of its opponents since, whatever some may say about Vietnam. few countries believe that they can, by themselves, stand up to the military might of one of the superpowers, and certainly not without paying a severe price for trying to do so. 1/ For this reason, the unilateral deployment of military forces by the United States or the Soviets may have an impact on potential PG conflicts far out of proportion to the actual military capabilities of these forces, although it would obviously be rather risky for either one to count on it.

(5) Because the stability of the area and the deterrence of any major Soviet involvement are our most important objectives, being able to get forces to the area quickly could be crucial. One especially important measure of our ability to affect local PG conflicts and deter the Soviets can be provided by looking at the projection balance; that is, the amount and the rate at which the United States and the Soviets can simultaneously project military force to the area.

(S) The rate at which the United States and Soviet Union can project forces to a conflict in the Persian Gulf is a measure of the outcome either if one superpower or the other were to intervene unilaterally in a local conflict in the region or if the two countries were to fight a limited war in the region. Such intervention, and particularly simultaneous intervention by the two superpowers, does not seen likely, since war between the United States and the Soviet Union, even on a limited scale in the Persian Gulf, would carry grave risks of escalation. However, even though such scenarios are unlikely, perceptions of absolute and relative U.S. and Soviet capabilities will be an important influence on actions in less severe crises:

-- The actions of local countries and outside Third countries will be affected by the perceived consequences of superpower intervention against them, even if the superpower decision to intervene may be unlikely.

-- The willingness of the superpowers themselves to act, while primarily influenced by the risks of escalation, is bound also to be affected by perceptions of what would happen locally should it encounter the opposition of the other superpower.

1/ Examples of this kind of impact are the British intervention in 1951 in which Iraq was deterred from seizing Kuwait and the U.S. Intervention to deter Egyptian aerial bombing of Saudi Arabia in 1963.

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## 1. Availability and Vulnerability of LOCs (U)

U.S. and Soviet ability to intervene in the Persian Gulf will depend heavily on the access routes available to each side. Although the Soviet forces nominally have much shorter distances to travel to reach potential conflicts in the Persian Gulf, the possibility of political denial or military interdiction of key access routes could dramatically increase the time needed to deploy Soviet forces to the Persian Gulf area. In addition to having superior long distance airlift capability, the United States has more routing options with fewer vulnerable points on each, political advantages with key countries, and superior capabilities to interdict LOCs.

(S) Although political actions to restrict or prevent U.S. or Soviet air or sea passage are unlikely, and military actions are still more so, in any but extreme contingencies, both countries will weigh the potential vulnerability of their LOCs while projecting and supporting their own or other forces in the area. At the very least, Soviet perceptions of potential vulnerabilities or difficulties in getting to the area are likely to affect their willingness to help escalate a local conflict and become further involved. ]/

(45) With this is mind, it is useful to outline Soviet and U.S. LOCs to the Fersian Gulf and briefly compare their mutual vulnerabilities.

(5) Sea LOCs (SLOCs). The following tables summarize Soviet and U.S. sea routes to the Fersian Gulf. (These routes are displayed in the maps in Appendix E.)

1/ According to the account of Nasser's personal secretary, after the 1967 war, Brezhnev told Arab leaders that it would be difficult for Soviet forces to fight in an Arab-Israeli war, in view of the possibility of the war expanding at a time when "we find the communication line between us and you long." Brezhnev also implied that even airlifting support to the Arabs carried some danger because Soviet aircraft had to fly "through pro-western airspace."

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Chief, Decises B: Tal. & Rec. Div. WHS -SECRET-Table 111-6 (8)

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		Table 111	-6 (8)	the set of the set	set:
	LENGTH OF SLO	Cs FROM USSR	TO IRAQ (UMM QAS	R) (U)	1 Jeans
	A Via <u>Med/Svria</u>	Via Med/Suez	C Via Facific	D Via Med/Africa	Via LANT/Africa
Total loth (mi)	2,450	4,580	7,015 7,515(via Selat Sunda)	12,190	14,885
No. of Canals	0	1	0	O	0
No. of Straits	1	3	3	3	0
Other vulnerable passageways	1	2	1	1	ï
Koute A - Sevasto	pol – Turkish	Straits - Lati	akia/overland Sy	ria to Eaghdad.	
Route 6 - Sevasto	pol – Turkish	Straits - Sue	z Canal - Jubal	Straits -Bab el	Mandeb.
Route C - Vladivos Laccadio	stok - Sea of ve Sea.	Japan - Korea	n Straits -Luzon	Straits - Mala	cca Straits -
Route D - Sevastor Cape of	pol – Turkish Good Hope.	Straits - Stra	eits of Sicily -	Straits of Gib	ralter -
Route E - Murmans	k – GlUK Gap –	Cape of Good	Hope.		
		Table III.	-7 (8)		
LEI	GTH OF SLOCS	FROM U.S. TO	SAUDI ARABIA (DH	AHRAN) (U)	
	<u>A</u> Via LANT/Med/Su	ez <u>Pavit</u>	C Via fic LANT/Afr (Suez Clo	v ica Pacif ase)	D ia ic/Australia
Total length (mi)	8,4	20 11,4	415 11,	810 1	3,930
No. of Canals		1	0	0	0
No. of Straits		3	2	0	0
Other vulnerable passageways		2	1	0	0
Route A - Norfolk Route E - San Fran Route C - Norfolk Route P - San Dieg	- Straits of cisco - Hawai - Cape of Goo o - Tahiti - 1	Gibralter - Su i - Makassar S d hope. South of New 2	uez - Jubal Stra Straits - Selat Cealand and Aust	its - Bab el Ma Sunda - Laccadi ralia.	ndeb. ve Sea.
		25.005	I	-	

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Table 6 and 7 indicate that U.S. SLOCs, although longer, contain fewer points that can be politically denied or militarily interdicted. Only the U.S. route through Suez is vulnerable to political closure, and that would be unlikely with the present Egyptian regime. The Soviets would lose one of their best routes with the closure of Suez. Closure of the lurkish Straits would deprive the Soviets of this route as well as their shortest route, the sea-land route through Syria. Such action by Turkey or Egypt would encounter international legal obstacles-closure of the Turkish Straits constitutes an act of war--and Turkey particularly would run great risks if it confronted the Soviets. Short of complete closure, however, either country could harass or delay Soviet passage.

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All of the Soviet sea routes would be vulnerable to interdiction by U.S. forces and some would be vulnerable to the forces of Third countries. U.S. SLOCs, on the other hand would be relatively secure from attack except possibly in the Eastern Mediterranean and in the Straits of Hormuz/Persian Gulf area. (Interdiction is possible but less likely in the Makassar-Selat Sunda-Malacca Straits area.) The Fersian Gulf area, and particularly the ports in the Northern Gulf, would be the greatest U.S. vulnerability, but only in the event of a major Soviet attack on Iran or a major change in Iran's orientation.

Overall, the Soviets would face much greater risks of political and/or military actions to close down their sea routes than would the United States.

(5) Air Lines of Communication (ALOCs). Soviet and U.S. ALOCs to the Fersian Gulf are summarized in Tables 8-10, and the routes are displayed on the maps in Appendix B.)

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### Table 111-10

LENGTHS OF U.S. ALOCS TO RIYADH

	At1	antic Routes		Pacific	Routes
	<u>A</u>	Б	(	<u>D</u>	1
lotal lenghth (mi.)	5,830	6,040	6,460	12,410	12,490
No. Legs	2	ŝ	Ĵ	5	£
Longest Stage	3,165 (McQuire Torrejon	2,980 (Lajes- Tel Aviv)	3,010 (McQuire UK)	3,295 (Hawaii - Guam)	3,295 (Hawaii - Guam)
Enroute stop	Spain	Azores Israel	UK Israel	Hawaii Guam Philippines Diego Garcia ⊵/	Hawaii Guam Philippines Singapore Diego Garcia
Countries	lsraeï	Jordan	France Switzer- land Italy Greece		

a/ For a discussion of the support role of Diego Garcia, see Appendix C.

(S) By contrast with the SLOC case, the United States has serious disadvantages: much ionger distances, and multiple steps. However, while the Soviets do not have to concern themselves with refueling stops, they do need overflight rights. Without them, Soviet flight distances to Baghdad would increase by a factor of 5-7, and to Aden by a factor of 1.4 to 2.7. Denial of overflight rights would be a much more plausible action for the countries involved than would closure of international waterways. Given the political orientation of the countries involved only Route B to Baghdad and Route D to Aden would likely be available during PG contingencies.

(S) The United States, on the other hand, must worry about enroute stops for refueling in addition to the necessary overflight rights. While our experience in the 1973 Arab-Israeli war indicated that we can not count on having such access or rights in all crises, there is reason to believe that we would not be so constrained in a PG contingency. Although in 1973 many of our stauchest European allies feared alienating the Arabs and having their oil supplies curtailed if they assisted us, in major PG contingencies (e.g., Iraq vs. Saudi Arabia) the same interests could dictate a much more positive course of action.

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Air LOCs, of course are vulnerable to military interdiction, although at a higher level of violence than more limited forms of SLOC interdiction such as mining. All Soviet ALOCs would be vulnerable with the significant exception of routes across Turkey or Iran to interdiction (by the United States and possibly Israel in the Eastern Mediterranean and by the United States, Iran, and Saudi Arabia in the Persian Gulf).

(S) The airports at destination points could be vulnerable for both the United States and the Soviets, but in many scenarios, the United States has access to alternative fields in rear areas or in nearby countries from which forces and supplies could be moved forward by tactical airlift or ground transportation.

(S) In general, the greater vulnerability of Soviet air and sea routes to the area tends not only to negate Soviet advantages of proximity to the area, but also may be used to deter extensive Soviet involvement in a PG conflict. U.S. actions that encourage others to take those political steps that make it difficult for the Soviets to get to the area (e.g., denying overflight, closing straits) could deter Soviet actions to widen the scope of a conflict or to increase their own involvement. Should the Soviets do otherwise, they would run the risk of either being helpless during a conflict or, worse, naving to escalate dramatically to be able to provide support for their clients or their own forces.

2. Naval Projection Balance (U)

(5) In a crisis that is still ambiguous in character, the United States and the Soviet Union may be reluctant to commit forces to a particular country, and local countries may be unwilling to run the risks of receiving them. In such circumstances, naval forces have an inherent flexibility that allows the sending of appropriate signals (including the threat to intervene directly with sea-based air forces or amphibious forces) without unnecessarily escalating a local conflict or irrevocably committing us to action, and without requiring the involvement or complicity of local countries. 1/

(S) U.S.-Soviet naval force build-ups can be measured in numbers of combatants, or in numbers of U.S. carrier task groups (CVTGs) and Soviet counter-carrier or Anti-Carrier Warfare (ACW) groups. In neither case, however, are the capabilities of individual units the same.

Putting airborne forces on ostenatious alert has been used in a similar way. Note also that in some cases flexibility and ambiguity of commitment is not sufficient. For example, in 1963 we felt it necessary to deploy tacair squadrons to Saudi Arabia; similarly, in 1961 the British inserted ground forces in Kuwait. These actions were intended to be unambiguous.

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(5) The following table lists typical elements of a U.S. CVIG and a Soviet ACW group.

U.S. CVTG

Soviet ACW Group

1 CV (72 aircraft) 1 long-range SSM CG 2 CG 4 DD/FF 2 SSNs 1-2 Short-range SSM or SAM CG/DDG 1-2 SSG/SSGN 1-2 SSNs 1-2 SSNs

(U) The following graphs portray how quickly the United States and the USSR can move to the Persian Gulf.



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181 The graphs indicate that even with Suez closed tous and open to the Soviets, the United States is presently able to getmore combatants to the area in the first 25 days of a crisis. Because of forward deployments in the western Pacific the United States is able to get two CVTGs to the Fersian Gulf by C+14; as a result, the United States enjoys a numerical advantage in all the cases portrayed. In general, these U.S. forces are also much more capable than their Soviet counterparts. Since ACW groups are geared essentially to countering CVIGs, the Soviets may be able to achieve their objective in a regional crisis/ conflict situation--if that is only to deter us from a maval or amphibious intervention, while also bolstering their clients ashre--by simply matching CVIGs with ACWs and not having to match us in the total capability or even even number of combatants. As a result, comparisons of projected U.S. and Soviet naval forces should probably be drive not only in terms of total numbers, but also in terms of the numbers of CVTGs and ACWs on station in the area.

(5) The U.S. achieves greater proportional advantages in the first 25 days, whether measured in numbers of combatants or numbers of CVT6s vs. ACW groups, if Suez is closed to both sides rather than open to both. If Suez is open to the Soviets, they will be in a position to cover each U.S. CVT6 throughout a 25 day build-up. Only if Suez is closed to the Soviets will U.S. CVT6s exceed Soviet ACWs, and, then, only from C+14 to C+20. In all cases, the United States achieves a numerical advantage by C+8, an advantage that reaches as high as 30 to 4 for 5 days if Suez is open to us and closed to the Soviets.

(5) In terms of ability to influence a crisis ashore, U.S. naval forces have a large advantage over Soviet naval forces. The CVTG, with its organic air and lift capabilities, is superior in air and assault power and is far better able to project power ashore than is the Soviet ACW group. The ability to exploit these advantages will depend partly on the credibility of the preemptive threat posed by Soviet ACW groups and aircraft based in the Soviet Union. The Soviets would be forced, however, to escalate a local conflict to one of war between the superpowers, or at least be able to threaten convincingly to do so, in order to negate the power projection advantages of U.S. naval forces.

(U) (For a discussion that highlights one measure of the power projection capability of a CVTG in the PG area, see Appendix D. For a comparison of U.S. and Soviet amphibious forces and their movement to the Persian Gulf, see Appendix E.)

3. Ground and Tactical Air Forces Projection (U)

(S) In addition to or instead of naval shows of force, the United States and the Soviet Union may also influence local conflicts by projecting ground and air forces into the area.

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(S) Scviet battalions, brigades, and divisions are smaller both in terms of combat personnel and in terms of overall support than their U.S. counterparts. Consequently, comparing U.S. and Soviet projected forces in terms of their manpower--while not irrelevant from a capabilities of the projected forces. Because both the Soviets and the local actors are likely to be influenced by not only the fact of the U.S. commitment (as reflected in the presence of any U.S. forces) but compare U.S. and Soviet ground forces according to the Armor Division Equivalent (ADE) scores of their arriving units. Doing so provides a force deployments.

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(S) Before portraying this comparison, it should be noted that it is difficult to foresee a scenario where the U.S. and the Soviet race to deploy forces to the Persian Gulf in an essentially benign environment. While this may be true, portraying what forces each could project to the area (and how quickly) does provide a rough influence local actors and each other at the outset of a Persian Gulf bilities is instructive. 1/

(S) The following graphs portray the buildup of U.S. and Soviet forces as measured in ADEs over the first 40 days of a PG conflict. They reflect the upper-bound capability 2/ of each side to project forces ans as such are based on a number of assumptions:

 The near total use of strategic airlift fleets (i.e., all U.S. CRAF and Soviet VTA aircraft) 3/

1/ While it might be argued that the Soviets could always do better than us by projecting forces overland through Turkey or even Iran, any such move, especially through Turkey, would raise the likelihood of a direct conflict with the United States and NATO. Because the Soviets would have few interests in local Persian Gulf not take such an extreme step. Nonetheless, the overland option exists and is of concern to us.

2/ One reason the figures are upper bounds is that neither the United States or the Soviet Union have ever airlifted full ground divisions. The United States has moved some units to Europe, but always with warning, and the Soviets have never airlifted whole units outside the Soviet Union. (Indeed, the Soviets have no real experience in deploying large forces to non-contiguous areas.) A second reason flying the number of transport sorties per day that is reflected in the buildup curves (i.e., approximately 550 for the Soviets, 125

3/ For the United States to use CRAF 111 aircraft a national emergency would have to be declared.

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- to attrition or enemy opposition in route or upon arrival
- Sufficient availability of air and sea ports of debarkation
- -- Sufficient basing and POL
- -- Simultaneous buildup of units and sustaining supplies 1/

(comparing upper-bound build-up rates is to be U.S.-conservative since it is more likely that the U.S. could achieve and sustain a sortie rate of 125 per day, than that the Soviets could build to a rate of over 500 per day. A best-guess comparison, if one were available, would be more favorable to the United Statesinsofar as sortie rates, etc., are concerned. 2/

1/ The deployment model used probably understates support requirements for both sides. It should be added that increasing support requirements or requiring more support to be on hand before counting a unit as being in-place could delay the deployment of, for example, an armor division by approximately 10 days.

2/ There are may caveats associated with the build-up rates, and these are more fully discussed in the executive summary's section IV.

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(S) The base point for making comparisons is probably the case in which the U.S. Med/Middle East route is available. The Med/ Middle East route represents, in reality, three different routes that or through the Mediterranean and the Middle East on the way to the Fersian Gulf (see Appendix B). The tradeoffs in time between these routes is marginal and any one of the three is at least as likely to be available as the Soviet "more realistic" route.

(S) The Pacific route is the U.S. worst route, and would probably have to be used only in extreme cases. ]/ Nevertheless, the U.S. buildup along its Pacific route has been portrayed in order to highlight the impact a loss of U.S. access through the Med/Mid-East would have on U.S. projection to the Gulf, and to show that even when the United States must use its worst route and the Soviet Union has access to its best, the U.S. retains advantages in the build-up of forces from days 14-30. The Soviet build-up of ground forces is slowed significantly in the second and third weeks by the need to fly in tactical air support and defense materiel. In the second month it is speeded up by the assumed availability of sealift. If these assumptions were changed, the Soviets would do much better in the first month, and much worse thereafter. (This point will be discussed in more detail below.)

(S) In the base case (i.e., the U.S. Med/Mid-East route), the Soviets have as advantage at the outset. However, this disappears at about M+10, and until approximately day 30, U.S. forces then have an advantage measured in ADEs as high as 3:1. If (and only if) the Soviets are able to get sealift into the region this U.S. advantage disappears in the fifth week.

(S) Use of their optimum route (overfly Turkey--move forces by sea to Latakia--and go overland from Syria to Iraq) enables the Soviets to build a larger advantage in the first ten days (2.8:1) than they can achieve with an air LOC over Yugoslavia (1.8:1). The more favorable route also reduces their average disadvantage in days M+20 to M+30 from about 1:2.8 to 1:2. However, because most of the Soviet airlift is used to bring in tactical air support after the first airborne division arrives, the duration of the initial Soviet advantage is principally a function of the routes available to the United States-roughly one week if the United States has routes through the Med and roughly two weeks if the United States has to come by way of the Pacific.

I/ Coming by way of the Pacific, U.S. airlift takes approximately 40% longer and sealift is delayed by about one week.

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Along with the ground force build-up portrayed in the graph, the United States is able to move 4 tactical fighter wings (288 aircraft) and 2 carrier air wings (144 aircraft) while the Soviets deploy 2 tactical fighter divisions (270). Moreover, because the Soviet fighter divisions require 30,605 S/T of support 1/ compared to only 7,500 S/T for a U.S. fighter wing that is half the size, the Soviet tactical air component takes longer to arrive and displaces a larger amount of lift than the larger U.S. deployment. With all of the USAF tactical air in place by day M+10, the United States would have roughly 3 times as many fighter aircraft in the area as the Soviets, even if the Soviets overflew Turkey. With the addition of the carrier airwings, by day 14 at the latest, the United States would still have roughly 2.4 times as many aircraft. If the Soviets were forced to overfly Yugoslavia, they would not only have to fly longer distances, but they would have to crate their fighters instead of ferrying them. The United States could have 9 times as many aircraft in the third week, and 3 times as many even

เก The preceding discussion indicates how sensitive the comparison is to assumptions about overflight and access, particularly for the Soviets. If anything, however, it understates the uncertainty in estimates of Soviet capabilities. For example, should the Soviets be unable to overfly Europe, the Mediterranean, or Iran, while the United States retained its access to these areas, the impact would be especially great because of the lack of Soviet air basing options in the Pacific and the range and refueling limitations of Soviet airlift forces. 2/

Because the weight and cabin space required to airlift fighteraircraft in a Soviet fighter division is vastly smaller than that required to lift the support of the fighter division (e.g., 795 5/T vs. 30,605 S/T), the ferrying of aircraft does not free up a sufficiently large number of airlift resources to affect in a noticeable way the projection of ground forces. However, it would reduce the time required to get aircraft operational. No allowance has been made for this latter

2/ The loss of Mediterranean overflight for the Soviets is not a farfetched possibility, since they would have to overfly either Yugoslavia, Turkey or Romania/Bulgaria/Greece. Moreover, unless they can overfly Turkey, they would be exposed to U.S. carrier aircraft and Israeli aircraft in the Mediterranean. While the chances of either the United States or Israel shooting down Soviet transports is likely to be small, a Soviet planner contemplating a Persian Gulf operation would have to consider the possibility that his airlift could be abruptly terminated.

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have to move their forces to the Fersian Gulf by sea and the United States would have a virtual monopoly over the Soviet Union in the ground and air forces that could be deployed to the area for at least the first 30 days in a PG conflict. 1/ Thus, during the most critical time of any PG contingency, the Soviets would not be able to match U.S. projections of force to the area, and, indeed, even after this the Soviet build-up of forces would be far slower than the U.S. build-up.

#### a. A Plausible Soviet Worst Case (U)

A conservative Soviet planner might plan on having neither overflight of Turkey, overflight of Iran nor sealift. This is shown in Figure 4.

Figure 4 also shows the Soviet best case--Turkish overflight, sealift and Tac Air pre-positioning. As indicated, if the large demand for tactical fighter support could be eliminated and the Soviets could overfly Turkey, they could match (and eventually exceed after day 30) the build-up in the U.S. base case. 2/

(S) Table 11 shows the impact of changes in these three assumptions on the build-up in the "Soviet conservative" case. In the first 20 days, assumptions about pre-positioning tacair support have the greatest effect. By C+30, sealift becomes the most important variable, with Turkish overflight making up for the absence of prepositioning.

I/ The projection of ground forces by sea does not become significant for either the United States or the Soviet Union before the first 30 days, except for U.S. Marine forces. If the Suez is closed, the U.S. sea-lift of ground forces will take approximately a week longer to get to the area. For the Soviets, the impact of a closed Suez may be even greater; moving forces from either the Black Sea, Baltic or Northern fleets with the Suez closed will increase the transit time involved by three weeks. While moving forces from the Pacific would increase the transit time by only one week, the Pacific Merchant Marine fleet is less capable of transporting ground force than is the Black Sea fleet-e.g., whereas 24 ships in the Black Sea Merchant Marine fleet are believed capable of transporting the equivalent of 2 tank divisions, 24 ships in the Pacific fleet can transport only 1.33 tank divisions.

2/ This assessment assumes that the Soviet development of an air defense infrastructure in, for example, Iraq, has not led to a U.S. buildup of air defense support and materiels in Iran or Saudi Arabia. Given the speed with which we can deploy tacair wings, however, pre-positioning has less impact on us than on the Soviets.

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SECRET Table 111-11 (S)

IMPACT OF KEY ASSUMPTIONS ON SOVIET BUILDUP IN THE PERSIAN GULF (U)

		<u>C+10</u>	<u>C+20</u>	<u>C+30</u>
Base Case:	No Turkish Overflight No Prepa of Air Defense No Sealift	.54 ADE	.6 ADE	.7 ADE
Percent of	Base Case			
	Turkish Overflight No Prepo of Air Defense No Sealift	1112	125%	228%
	No Turkish Overflight Prepa of Air Defense No Scalift	1291	183%	228%
	No Eurkish Overflight No Emepo of Air Defense Sealift	1001	100%	192%
	Turkish Overflight Prepo of Air Defense Sealift	166%	316%	465%

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#### b. A U.S. Worst "Plausible" Case? (U)

In assessing U.S. projection capabilities to the Persian Gulf, a conservative U.S. planner might feel the need to plan on the basis of simultaneous crises in NATO and the Persian Gulf.

Although traditional Soviet caution would seem to argue against their going to the extreme of mobilizing in Europe to influence the outcome of a limited conflict in the Persian Gulf, prudent planning requires that we not rule out this possibility. 1/ Indeed, because simultaneous crises in Europe and the Persian Gulf would apparently affect our projection capabilities to the Gulf for more than the Soviets, this question may require serious attention.

Impact of U.S. and Soviet Contributions (U)

While the superpower contributions could have a much larger military and psychological impact than those of other third countries, even the superpowers might have some difficulty affecting results in the largest PG war--Iran vs. Iraq. The size and firepower of pre-revolution Iranian and Iraqi forces were sufficiently large that the forces the United States and the Soviets could project in the first weeks, short of a Soviet mobilization on the Iranian border, might have been insufficient to change the results. Although Iranian strength has been greatly reduced, the basic conclusion may still be valid, at least for a fast-moving war. Moreover, it is possible that U.S. or Soviet light forces might not fare well in a large-scale war between Iraq and Iran--heavier forces might be necessary. 2/

Table 12 compares U.S. and Soviet projected forces at (+10, (+20 and C+30 to the aggregate local forces. Although the United States and the Soviet Union could project large numbers of tactical aircraft to the area by C+10, the ground forces that each could project by C+10 compare favorably in size only to those of the YAR and the PDRY. Not until C+20 for the United States, and C+30 for the Soviet Union, would U.S. and Soviet projected ground forces become numerically significant in an Iran-Iraq-Saudi context. It should be noted, however, that since U.S. and Soviet forces are in all cases qualitatively superior to local forces, their military impact is likely to be far greater than their numbers alone might otherwise indicate.

<u>1</u>/ Especially because, unlike in the Cuban missile crisis, where a Sovier mobilization in Europe would not have affected our local advantages in the Caribbean, a Soviet mobilization could dramatically affect what (and when) we could get forces to the Persian Gulf.

2/ This remains somewhat unclear, and is probably quite dependent on the detailed configuration of the light forces and accompanying tac air.

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COMFARISON OF U.S. AND SOVIET PROJECTED FORCES WITH LOCAL FORCES (U)

	Army Personnel	Tanks	Artillery over 100mm	APCs	ATGMS	Tactical Aircraft
U.S. C+10 C+20 C+30	15,030 31,983 59,552	0 336 687	94 251 - 396	18 399 866	518 1,198 1,923	280 420 420 <u>a</u> /
USSR <u>b</u> / C+10 C+20 C+30	7,400 9,400 27,100	95 95 380	36 36 300	100 195 796	27 54 132	135 270 270
lran c/	(280,000)	(1,740)	(1,230)	(2,500)	(1,856)	(393)
- Iraq	195,000	2,02 <b>0</b>	860	2,000	1,400	386
Iraq <u>d</u> /	40,000	774	158	466	-	-
Saudi Arabia	80,000	320	215	920	100	137
Saudi Arabia <u>e</u> /	21,300	220	48	230	-	-
PDRY	20,000	225	130	225	NA	80
YAR	37,500	250	100	500	NA	28

Does not include 168 aircraft Marines could contribute.

**V** Assumes Turkish overflight and ferrying of tactical aircraft, but no prepositioned air defense support materiel or equipment.

Pre-revolution forces.

- c/ ₫/ Represents the limited force commitment Iraq might make against Saudi Arabia and Kuwait--at least until Iranian, Israeli, and Syrian intentions become clear.
- Represents the combined force Saudi Arabia and Kuwait could e/ build by about M+14 against the Iraqis.

Iran vs Iraq. By seizing the initiative, Iraq could 151 make some important gains early in a war, in southwestern Iran or in Kuwait. Soviet assistance could then help Iraq defend its gains and confront Iran with a fait accompli. For example, Soviet fighter aircraft could be especially important in an air defense mode--1.e., for protecting both rear areas and LOCs. Similarly, initial ground force deployment--airborne divisions and SNI--would fit most logically and could be useful in a static defense configuration. Soviet forces would be particularly important in making the Iraqis more confident about their ability to defend Baghdad, should the Iranians or others threaten the Iraqi capital. DECLASSIFIED

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A U.S. deployment of two tactical fighter wings (TFWs) in six days and an additional two within ten days could be significant in blunting an Iraqi offensive--but only if it were not already a <u>fait</u> <u>accompli</u>. Similarly, initial ground forces--e.g., airborne division (day 10), MAB (day 11)--could be useful in defending cities or other critical areas. However, to reverse the tide of battle--especially given the undertain state even in the future of the Iranian military-larger ground forces would be required.

Iraq vs. Saudi Arabia/Kuwait. Although the forces engaged in an Iraq-Saudi Arabia/Kuwait conflict would be smaller than those involved in an Iraq-Iran war, the Iraq-Saudi case may be more important and more demanding for the United States, not only because Iraqi forces would have a major initial advantage over the combined Saudi/Kuwaiti force, but also because the Iraqis could be sitting atop Saudi oil within a week. 1/

(S) The U.S. could deploy two tacair wings within a week, and a force of 15,000 men and 500 ATGMs within 10 days. If so deployed, this force could deter Iraqis by raising Iraqi doubts about their ability to execute a successful attack and by heightening their concerns about the potential price they might have to pay. 2/

(5) The effectiveness of this force as a deterrent would largely be a function of its being sufficient (1) to prevent an Iraqi fait accompli and (2) to demonstrate the U.S. determination to fight if necessary. While a smaller U.S. force could also signal a U.S. commitment, and would certainly not be treated lightly by the Iraqis, it might not be sufficient for deterrence.

(5) South Yemen vs. Saudi Arabia or South Yemen vs. North Yemen. Conflicts in the southern Arabian Peninsula are most likely to have the character of protracted guerrilla wars aimed at politically destabilizing opposing regimes. Despite the largely political character of such wars, either superpower could intervene decisively without placing a serious demand on its military capabilities unless the

1/ The only local countries that might intervene quickly and effectively are Israel, Egypt, and France. Although Israel's role would probably be limited to tactical air strikes, this could be important in slowing an Iraqi advance long enough to permit the introduction of ground reinforcements for the Saudis. Egyptian forces could begin arriving within a week; heavier forces would take considerably longer to get to the area, unless moved by the United States. French forces could arrive in 14 days with their own lift, but would be very light.

2/ For an ADE comparison of the US-Iraqi buildup, see Figure 2, page 8 of the Executive Summary. Note that in 1 week's time, Iraq could deploy nearly all available forces, holding in reserve 1 armor division for security around Baghdad and 4 mountain infantry divisions in the northern mountains.

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and sparse population, conventional military forces with sufficient superiority can close guerrilla lines of supply and attack their base areas much more effectively than was possible in setting like Vietnam. In fact, the Iranian experience in Oman and the French experience in Mauritania/Morocco suggest that even very small numbers of effective this part of the world. Soviet or Cuban support for South Yemen could action that might be taken by the superior combined forces of Saudi Arabia and North Yemen in response to South Yemeni efforts to destabilize either or both of those regimes.

(5) Because the area is much further from the Soviet Union, the United States would do even better in a competitive build-up with the Soviets in southern Arabia than in the immediate vicinity of the Fersian Gulf. Moreover, the United States could also counter the Soviets effectively, and perhaps more effectively, with a blockade or "quarantine." In particular, mining the harbor of Adem could be very effective. While the Soviet Ethiopian operation shows that potential vulnerability to blockade is not always a deterrent, it is doubtful that intervention on the Arabian peninsula. Their actions would, of course, signals the United States was communicating. But the potential vulnerability of any force that they or their allies deploy to the Yemens could be an important deterrent to any deep Soviet involvement in a Yemen war.

D. IMPLICATIONS (U)

(S)-In brief, the examination of lesser Persian Gulf contingencies suggests that deterrence of local wars and Soviet adventurism in the Persian Gulf will be enhanced by a U.S. ability to (1) actively support friendly countries in the immediate region and key countries outside it, (2) demonstrate with U.S. forces in the area, and (3) project our own or third country forces rapidly to the region. The analysis suggests that among third countries, Iran had the most important potential role. If Iran has ceased to be an effective stabilizing force in the region, and no other countries can fill this role as effectively, analysis suggests that current U.S. mobility assets give the United States a substantial rapid deployment capability relative both to the magnitude of probably local conflicts and Soviet deployments, unless Atlantic/ Mediterranean routes are closed to the United States or unless, in the worst case, there is a simultaneous Warsaw Pact mobilization in Europe. 2/ The most demanding case for the United States is probably an Iraqi attack on Saudi Arabia because of the disparity in local forces and the speed with which Iraq could occupy key oil production facilities. The already programmed stretching of the C-141, and the increased utilization rates for the C-5 will increase our ability to provide

 

 1/ This may presuppose an unrealistic efficiency. Neither the United States or the USSR has much operational experience in the region. Caveats regarding comparisons of U.S. and Soviet projection

 Capabilities are given in Section IV of the executive summary.

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more quickly. 1/ Since Soviet improvements in their airlift capabilities over the next 5 years will not exceed these programmed improvements in U.S. lift, the overall projection balance will change little from today. 2/

(5) To ensure our ability to project forces to the area rapidly, the United States should consider, with due regard to the potential political ramifications of such actions:

- Prepositioning of equipment and tactical lift capabilities in forward areas.
- -- Improving the capability of specific U.S. units to operate in the uniquely demanding climate of the Persian Gulf/Arabian Peninsula and to operate effectively with foreign forces.
- -- Assisting in the development of local infrastructures that are adequate to support the introduction of U.S. forces to the area.
- Emphasizing political/diplomatic efforts to improve our access to allied or forward bases. Access to Spanish bases and/or Lajes and Israel is especially important for the Med./Middle East routes, while access to Guam, Philippines and Diego Garcia is critical to our Pacific route.

-(s) To be able to move allied or local forces rapidly to the area of combat, the United States--while once again recognizing possible political sensitivities--should consider:

- -- Joint planning with allies or friendly countries, or unilateral U.S. contingency planning, or procedures for airlifting third country forces.
- -- Reducing potential logistics problems of friendly forces.
- 452
- -- A more visible U.S. presence in the area to remind our friends and warn their foes and the Soviets of our interests in the area.

Finally, the United States should also consider the value of:

1/ In 1984, it is estimated that the stretched version of the C-141 and increased utilization rates for the C-5 will raise the U.S. capacity to airlift tonnage to the Persian Gulf from the current figure of 3,650 T/D to 4,580 T/D.

2/ The Soviet capacity to airlift forces should improve with the addition of approximately 120 IL76s. However, the retirement of AN-12s and the inability of the IL76 to carry outsized equipment limit the significance of the Soviet improvement.

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 Exercises to demonstrate to friends and potential foes that, despite the region's greater proximity to the Soviet Union, the United States possesses equal or greater capabilities to project force to the region in cases short of a Soviet invasion of Iran.

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### Appendix A

# Iotal force (Combat Force 2/)

	<u>lran</u> b/	lraq
Ground Forces Army Personnel Medium tanks Light Tanks APCs Artillery over 100 mm Surface-to-Surface Armor Division Equivalents	280,000 (130,000 1,740 (1,640) 250 2,545 (900) 1,230 (900) 0 7.5	) 195,000 (130,000) 2,020 (2,000) 2,000 (1,800) 860 (450) 35 7.8
Air Forces Air/Air Defense Personnel Pilots [Jet Qual] F4 F5 F14 MIG-15/17/19/Hawker Hunter MIG-21 MIG-23 SU-7/20 Total Jet Fighters	112.000 2.100 [750] 193 136 78 0 0 0 0 0 0 407	30,000 700 [450] 0 0 0 60 155 72 99 386
Bombers SA-2 Launchers SA-3 Launchers SA-6 Launchers Hawk Launchers Rapier Launchers Tigercat/Seacat Launchers Attack Helicopters Transport Helicopters Utility Helicopters	0 0 0 205 52 30 195 347 385	30 72 78 80 0 0 0 40 166 44
Naval Forces Naval Personnel Destroyers Frigates Missile Boats	32,000 3 4 0	4,000 0 12

<u>a</u>/ Men and equipment subordinate to the divisons, independent brigades, and artillery groups.
 <u>b</u>/ Pre-revolution levels.

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Saudi, Kuwaiti, and Iraqi Armed Forces Total Force

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	<u>Saudi Arabia</u>	Kuwaji	I
Ground Forces			ILIAG
Army Personnel	<b>66 -</b>		
Medium Tanks	80,000 a/	8,500	195 000
APCs	320	150	2 020
Artillery over 100 mm	920	130	2 000
Surface-to-surface	215	18	2,000
	0	120	0DU 3r
Air Forces			25
Air/Air Defense Personal	<b>4</b> • • • •		•
Pilots	6,000	950	30 000
(Jet Qual)	-250	unk	100
F-5Es	(160)	(unk)	/00 (JED)
F-5Es/F-5Fs	65	· o	{001}
Lightning	42	Ō	0
F-1 Mirage	30	0	0
A-45	0	20	0
MIG-15/17/19/Hawkon Hunder	0	25	0
MIG-21	r o	0	0
NIG-23	0	0	155
SU-7/20	0	0	72
Total Jet Fighters	0	0	00
	137	45	386
Bombers	•		500
SA-2 Launchers	0	0	30
SA-3 Launchers	0	0	72
SA-6 Launchers	0	0	78
Hawk Launchers	0	0	80
Attack Helicopters	.00	32	0
Transport Helicopters	. 0	24	32
	Q	11	158
Naval Forces			- 2
Haval Personnel b/	1 500		
Missile Boats —	0	30	4,000
	U	0	12
a/ Includes 35,000 map M			

<u></u>**b**/

Includes 35,000 man National Guard. Personnel and ship totals do not include Saudi Coast Guard Assets which are about 4,000 men and 400 small patrol vessels.

III-A-



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### North and South Yemen Armed Forces

North	Yemen (YAR)	South Yemen (PDRY)
Ground Forces		
Army Personnel	37,500	20,000
Medium Tanks	250	225
APCs	50 <b>0</b>	225
Artillery over 100 mm	100	130
Air Forces		
Air/Air Defense Personnel	700	1,300
Pilots	29	60
[Jet Qual]	[unk]	[40]
MIG-15 & 17	28	37 (17's)
MIG-21	0	43
Total Jet Fighters	28	80
Bombers	12	10
SA-7 Launchers	0	unk
Naval Personnel	700	300-350

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## Saudi and South Yemen Armed Forces

<u>Saudi Arabia</u>		South Yemen (PDRY)
Ground forces		
Army personnel 1/	80,000	20,000
Medium Tanks	320	20,000
APCs	920	225
Artillery over 100 mm	215	130
Air Forces		
Air/Air Defense Personne	1 6,000	1,300
Pilot	250	60
[Jet Qual]	[160]	[40]
F-5Es	. 65	0
Lightning	30	ō
MIG-17	0	37
MIG-21	0	43
Total Jet Fighters	99	80
Bombers	0	10
SA-7 Launchers	0	unk
Hawk Launchers	60	0
Transport Helicopters	8	Ō
Naval Personnel <u>2</u> /	1,500	300-350
<pre>1/ Includes 35,000 a 2/ Does not include</pre>	man National Guard. Saudi Coast Guard ass	sets.

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Appendix B

Soviet and U.S. LOCs to the Persian Gulf

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FIGURE 111-B-2

# LENGTH OF SEA SLOCS FROM U.S. TO SAUDI ARABIA (DHAHRAN)





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#### Support for U.S. Forces: Role of Diego Garcia

A. 4. 52" 1. 

Any U.S. force deployed to the Gulf area will require a major support effort. Unlike the situation that faced U.S. forces in Vietnam. the Persian Gulf is far from the nearest American base. There is no Subic Bay or Clark AFB on the doorstep. In fact, the closest U.S. bases to the Gulf are located in Greece and lurkey, but these could have serious political and neographic limitations in any Mid-[ast crisis. because of the support requirements and geographic constraints, a Fersian Gulf contingency could focus attention on Diego Garcia, a coril atoll strategically located near the center of the Indian Ocean. (Set Figures A and E.) The island is a Eritish possession, but it has an airfield, a U.S. Navy Support Facility and communication station (jointly run with the U.K.). Dieco Garcia also has a 45 foot deep harbor that can hold a carrier and its escorts. The airfield's main runway will be extended to 12,000 feet by early 1975. This would be long enough for fully loaded KC-135 tankers, but too narrow for B-52s. POL facilities will be expanded from 60,000 bbls to 700,000 bbls by 1980 and temporary ammunition storage is under construction.

#### Naval Looistics

From a neval standpoint the principal logistic value of Diego Garcia is that it reduces the distance between a carrier task force and its support base during operations near the Gulf. In fact, the distance from the Strait of Hormuz to Diego Garcia is about 2,300 miles, compared with 4,700 between Hormuz and Subic Bay. If a naval force were supported from Subic the need for scarce Navy underway replenishment ships would be increased by about 50 percent. During normal operations, stocks at Diego Garcia can be kept at capacity by civilian charter ships or other types of naval vessels that are not in such short supply.

An analysis of combat expenditure rates showed that, even with Diego Garcia, shortfalls in POL and ammunition might occur in the early days of a conflict if the carriers began fighting as soon as they arrived in the Gulf. However, the problem would be solved by about the 15th day, when additional support ships are scheduled to arrive, and there may be no shortfalls if combat operations did not begin immediately.*

#### Patrol Aircraft Base

A second important role of Diego Farcia is as a central base for Indian Ocean F-3 operations. Ordnance handling, maintenance and other support facilities for P-3s are being built on the island. The principal

It may be argued that it is foolish to consider a POL shortage as a possibility in the vicinity of the Fersian Gulf. However, refined products in the Gulf region could be destroyed and, furthermore, the types of petroleum needed by the military may not be available in sufficient amounts.



problem is a lack of aircraft parking space - 14 Air Force KC-135 tankers would completely fill even the new, expanded apron area. However, in a crisis, Seable units probably could extend the parking area within a few days. In any case many of the P-3s probably would be dispersed to other bases for operations and would return to Diego Garcia only for maintenance.

#### Support of Other Services

Finally, the Air Force has contingency plans for the island. SR-7: flights have been planned, and part of the POL storage has been requested for the special JP-7 fuel used by those aircraft. Up to 11 KC-135s operating from Diego Garcia also would play an importakt part in moving fighter squadrons from the Western Facific to the Indian Ocean littoral. Using KC-135s from Diego Garcia, 12 F-4s could be in place within a 5000 mile radius of Clark AFB within 30 hours and 48 F-4s could be staged in less than 90 hours. The use of Diego Garcia would result in the fastest closure times but the island is not indispensable if alternative airfields for tankers were available near Fersian Gulf destinations, and at some other point enroute, such as Thailand. It also can be seen that concurrent contingency use by the Navy and Air Force could result in aircraft beddown problems unless the apron upace were extended.

Two final points must be considered. First, consultations with the British are mandatory before conducting any extraordinary operations from Diego Garcia, such as SR-71 flights over foreign territory or amphibious operations. Second, the island now has no defenses. Accordingly, it is vulnerable to SNA Backfires and several types of LRA bombers, as well as SEAL-type raiders and some surface-to-surface missiles. In time of crisis, some defenses such as a Hawk battery or some Karine Corps fighters probably would be worthwhile.

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FIGURE 111-C-2

British Indian Ocean Territory





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#### Appendix D

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### Potential Impact of Carrier Airpower

Whe way to highlight the power projection capability of a CVIG in the PG area is to assess the potential impact carrier based air power could have on a local country. With this in mind, the capabilities of two notional carrier air wings were analyzed against lragi airfields and logistic infrastructure.

#### a. <u>Airfields</u>

AS) There are five air bases in central and southeast Iraq that support most of the country's bomber and interceptor forces. Iraq has few night-time defenses, and shelters for less than 20 percent of its aircraft. Eccause of this, and because of the capabilities of the A-fd, the analysis showed that night-time attacks by A-fs with cluster bombs (Rockeye) would be very effective. In particular, two air wings should be able to disable more than 75 percent of Iraq's bomber force and 85 percent of the interceptor force with two strikes. Even if dispersal fields were used, no more than four strikes (which could be done in two nights) should be sufficient. U.S. losses should be minimal, although there are uncertainties here because Iraq now has SA-6 systems. On the other hand, Iraq could prolong the campaign by withdrawing its forces to the northern and western parts of the country where they would be beyond the range of most carrier aircraft, but where they would pese little threat to Saudi Arabia and Kuwait.

Between now and 1985, the Iraqi air force could greatly improve its survivability by adding more shelters. This could increase the number of U.S. sorties needed to neutralize the IAF. However, there is enough redundancy in the carrier's delivery capability that most Iraqi aircraft within range of the air wing still could be destroyed in a few days. By 1985, Iraq is not expected to have an effective nighttime defense against low-flying A-6s.

b. Logistics Infrastructure

RAil, highway, and water transportation in eastern and southeastern lrag has little redundancy and is vulnerable to interdiction. DIA estimates that the destruction of as few as eight targets would cut nearly all road, rail and water links from baghdad to the Gulf.

An examination of these eight targets and their defenses revealed that they could be attacked effectively by using A-7s with precision guidance munitions (PGMs) 1/ against targets at night. These attacks could cripple the transportation metowkrs in southeast Iraq in two to three days. Without PGMs, about ten days would be needed. Occasional re-attacks probably would be needed to keep repairs from being made.

PGMs. At present, however, our CVs carry onlyta limited number of SECRET

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#### Appendix E

Amphibious Force Projection to the Persian Gulf

(S) Table _______ and Figure _______ indicate that the United States has a significant advantage over the Soviet Union in amphibious force projection to the Persian Gulf. Indeed, even though the Soviet capability is expected to double over the next & years (while ours remain essentially unchanged) the Soviet amphibious projection capability will still remain about 1/3 as effective as ours in 1987. Two factots account for this; First, total Soviet amphibious forces remain only a fraction of ours (12,000 SN) vs. 196,000 Marines). Second, the Soviets have only a limited number of ocean going amphibious ships 1/ and currently are only capable of transporting half of their SNI regiments to the Persia. Gulf. (For the sake of comparison, it is useful to note that U.S. Marines have sufficient amphibious shipping assets of their own to transport 1 MAF (40,000 troops) to the Persian Gulf.)

(S) In addition to the disparity in the size of the force that can be amphibiously projected, disparities in the firepower of the amphibious forces and assault capabilities of the two navies are also noteworthy. In the first place, the U.S. projected amphibious force (1 MAF) has a 2.4:1 firepower advantage over the amphibious forces the Soviets could project to the area (3 SNI regiments). 2/ Secondly, the Soviet Navy's capability for long distance assault operations against significant opposition is also far more limited than the U.S. Navy's. Here their lack of seaborne air support and their inadequate long-haul lift capacity tend to preclude a Soviet distant amphibious assault capability. This is not to say that SNI could not be useful during an unopposed, ground force buildup. (indeed, because it could, SNI (as well as the U.S. MAF) have been included in the ground force packages each side could project to the area.)

1/ Split fairly evenly among the 4 fleets, the Soviets currently have 25 ocean-going amphibious vessels with a capability to transport forces to the Persian Gulf--e.g., 14 Alligator LST, 10 Ropucka LST, and 1 new class LPD/LSD-X-1.

2/ The ADE of a MAF is .96, while the ADE of 3 SNI is .40.

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#### Soviet Amphibious Movement to PG-1978

Soviet Forces	Troops	Origin	<u>Davs Transit</u>	<u>Arrive a</u> /
1 SN1 regiment	2000	Black Sea Fleet	14	C+1E
l SN] regiment	2000	Pacific Fleet	22	C+26
1 SN1 regiment	2000	Northern/Baltic Fleet	27	C+ 3'i

a/ It is assumed that all Soviet naval infantry regiments will require 4 days to load out and depart.

U.S. Amphibious Movement to the PG

U.S. Forces	<u>iroops</u>	Origin	Davs Transil	<u>Arrive b</u> /
1/9 MAF (MAU)	2000	Napies	ç	C+1)
2/9 MAF (2 MAB)	0000	Ükinawa	13	C+15
3/9 MAF (1 MAB)	15000	Norfolk	٦ç	C+23
3/9 MAF (1 MAB)	14000	San Diego	26	C+30

D/ Arrival times assume that forward deployed amphibious forces could be fully ready and deploy on 48 hours notice. Larger forces, based in the U.S., are assumed to require 4 days notice before they can depart.

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Sovie	t Deployment to me	ч · ·· <u>··</u> — — — — — —		
	Optimum Route (overfly lurkey, sea to Latakia, overland to lraq)	More Realistic Route (overfly Yugo, sea access thru Suez)	Mode c/	A.D.[.
ighter Regiment	4	5	Air	
(45 planes)		C	Air .	.54
Airborne Division	E	-		
Remainder of Fighter Div. (90 planes)	9.5	16	Air	
Fighter-Eomber Division (135 planes)	14.5	26	Atr	÷-
SA-6 Regiment SA-3 Regiment	17.5	32	Air	,
SA-4 Brigade				
2CNO DILIGONE	16	18	See	.13
SNI		31-32	Air	.22
59th MRD 1st Bde	20.5		Alr/Sea Alr	.23
and Bde	24.5			1.5
	26	26	Sea	.13
311	27.5	31-32	Air Air/Sca	.19/.57
33rd MRD ist Boe 2nd Bde	29.5		Air	.19
3rd Boe	31.5		<b>5</b>	15
EN1	31	31	269	
241	30-31	38-40	5.0.3	-65
U/1 Gds. Tank Div.		38-40	Overland/Se	.21
Army Division	30-31			3.07
	Follow-On	Forces		
	37-39	60-62	Şea	.60
MRD #I	37-39	60-62	Sea	<u>.70</u> 4.37
a/ The force po that the Soviets might might se deploy it. I probabl light in supp b/ Sufficient a available. c/ For sea move only ships from the Bl	rtrayed reflects th conceivably deploy t should be noted, ort. ir and sea ports of ment during the fin ack Sea Merchant Ma	the kind of large com and the sequence f however, that the f f debarkation are as rst 40 days, it is f arine fleet are used 	bat force in which they force portray ssumed to be assumed that d.	CLASSIFIER STATEST
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U.S. Deployment to lran a/

<u>Unii</u>	Arri <u>Time</u> Med/Mid-Eas	val b/ t PAC Route	Mode <u>c</u> /	<u>D.C.</u>
<pre>1 TFW (72 planes) 1 TFW (72 planes) 82 Airborne 1st Ede 2nd Ede 3rd Ede 1 TFW (72 planes) 1 TFW (72 planes) 1 TFW (72 planes) 1 MAF 1st Ede 3rd ACR 2nd ARM Div 1st Ede 2nd Ede 1 MAF 2nd Ede 1 MAF 2nd Ede 1 MAF 3rd Ede 1 MAF 3rd Ede 1 MAF 3rd Ede 1 MAF 3rd Ede 1 MAF 1 1st Ede</pre>	1 6 7 8 10 8 11 11 14 18 22 19 26 25 38-41	1 E 10 11 14 11 15 25 20 25 31 15 36 29 45-48	Air Air Air Air Air Sea Air Sea Sea Sea	. 23 . 23 . 23 . 23 . 32 . 30 . 24 . 24 . 32 . 23
	Follow-	on Forces		
Division #1	60		See	<u>.80</u> 4.29

 $\underline{a}$ / The force that is portrayed contains elements of both a light and heavy corp. It reflects the kind of force that can be projected to the area most quickly with the greatest combat power. It may reflect a limited level of support for U.S. forces.

b/ Rapid, as opposed to gradual, buildup figures are used because in outlining the projection balance we are identifying the theoretical capability of both sides to move forces to the area by air and sea.

c/ It is assumed that sufficient air and sea ports of debarkation are available.

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SECTION IV (S)

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## A SOVIET OR SOVIET/IRAOI INVASION OF IRAN (U)

#### Foreword (U)

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When this study was first planned, several assumptions were made about lran: it would continue to be an ally of the United States; it would participate in joint defense planning with the United States; it would provide effective host-nation logistic support; and its armed forces would participate effectively if an invasion should occur. The Iranian revolution has drastically altered conditions, and none of these assumptions now appears reasonable. Nonetheless, it is still a fundamental U.S. objective to prevent the Soviets from gaining direct access to the Persian Gulf. Thus, it is still appropriate to examine possible strategies for deterring a Soviet invasion and for defending all or part of Iran if circumstances permit. 1/

A. INTRODUCTION (U)

The prospect of a Soviet invasion of Iran is in some ways analogous to the prospect of a Soviet attack on NATO: the invasion is not probable at present, but it would be extremely serious to U.S. interests should it occur. If the Soviets held a strong position on the Persian Gulf, they could threaten the oil supply of the Western world and Japan, and cause major realignments, regionally and worldwide. The Soviets surely recognize this strategic opportunity. Moreover, they have long sought a port with direct access to the Indian Ocean.

(U) It is also useful to note that:

- Russia occupied portions of Iran in the 19th century, and a smaller portion during part of WWI;
- -- Russia and England agreed in 1907 that the northern part of Iran, including Tehran, was within the Russian sphere of influence;
- -- the Soviet Union declared territorial aspirations for Iran in the Nazi-Soviet Pact of 1939;
- -- The Soviet Union invaded Iran in 1941, and again in 1946;

1/ See also a new study by S. Canby and E. Luttwat, U.S. Defense Planning for Non-NATO contingencies: Analysis of the Operational Forms of Warfare, the Case of Iran, "April 15, 1979, done by C&L Associates for DASD(PA&E)/Regional Programs. The study provides a strongly-worded alternative view of defense strategies for Iran, and extensive commentary on mountain warfare. A major thesis is that Iran could develop a more effective deterrent than previously existed, with far less reliance on U.S. assistance and high-technology systems. This would require developing special light forces trained for mountain defense rather than for firepower campaigns.

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-- the ethnic differences between Persian and tribal people in the Khuzestan and Azerbaijan regions provide opporortunities for the Soviet Union to encourage and exploit separatist movements.

(5) A Soviet invasion of Iran might plausibly occur in any of several ways, of which three are perhaps the most important;

- From the Soviets' exploiting a historical opportunity, such as civil chaos in Iran, to achieve a strategically important position on the Indian Ocean and Persian Gulf
- As the outgrowth of an escalating crisis in the Persian <u>Gulf:</u> the mere threat of Soviet military action against Iran would cast a shadow over any East-West confrontation in the Persian Gulf or Arabian Peninsula.
- 3. As part of a major NATO-Pact Confrontation: The Soviets might attack Iran in conjunction with an attack in Europe (to divert some of our forces), or possibly to strike NATO decisively without incurring the extreme risks of nuclear escalation and unified NATO response that a direct attack on Germany would probably entail.

It can be argued that U.S. security would be directly threatened only if the Soviets move into southern Iran and to the Gulf coast itself. This would suggest that U.S. planning be based on a defend-the-South strategy. Although such a strategy may indeed prove to be the only one available to us, analysis later in this section shows that our ability to prevent a complete Seviet takeover would be very much in doubt if the Soviets occupied the North--perhaps forcing us to threaten the use of nuclear weapons. There is also reason to believe that the best deterrence policy may still be to discourage the Soviets from making the first move--i.e., from crossing the clear international boundaries and moving forces through rugged mountains on vulnerable routes. The feasibility of a northern strategy would depend upon how early the Iranians asked for our assistance (if, indeed, they did), our willingness to commit combat forces without assured LOCs, the degree of Iranian cooperation, and the state of Iranian defenses--all doubtful or impossible to predict now.

(6) At this point, it is important to consider a range of scenarios in our force planning. If we were to base force planning on only one scenario, it would probably involve a southern strategy. However, because of the different force structures needed, this might foreclose our being able to use a northern strategy if circumstances permitted. Furthermore, if the limited nature of our strategy became known, it might encourage the Soviets to take over the North, and it would certainly decrease any Iranian incentives to ask us to intervene (we would be giving up all of Persian Iran and defending only the Arab South). It should be noted that the United States might be very reluctant to intervene without an Iranian request, even though our own security interests were at stake.

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Clearly, there are serious questions about our ability to cope with an invasion scenario at all, especially with only current and programmed contingency forces. However, two facts argue strongly for us to proceed with analysis and planning:

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- o Iran is strategically important, and perhaps critical, to the West.
- o The Soviet Union does not have truly vital national interests in the Gulf, and would probably be reluctant to take great risks there.

The issue, then, is whether we can make local Soviet adventurism in Iran appear too risky and painful to contemplate.

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#### B. THE GROUND FORCES INVOLVED

The Forces Involved

a. Soviet Forces. The forces the Soviets would commit to an Iranian contingency would be determined not by the total size of their ground forces, but by the importance they attached to the contingency; this would depend heavily on what were happening elsewhere in the world (e.g., on the Turkish border, elsewhere in NATO, and in the Far East). There would also be significant limits on their buildup rates in Iran even if they were willing to draw heavily on forces deployed elsewhere.

The Soviet forces closest to Iran are those in the North Causasus, Transcausasus and Turkestan military districts. They include 23 maneuver divisions (roughly 15 armor division equivalents --ADEs 1/), of which 6 divisions (4+ ADEs) are normally considered part of the Soviet threat facing eastern Turkey. Commitment of these divisions would require redeployment of other Soviet forces, perhaps from the Odessa MD or the strategic reserve, unless the Turkish border were to be left undefended.

The full 15-ADE force could be committed in Northern Iran within roughly the first month after mobilization. During the second and third months after mobilization, the Soviets could commit as many as 18 additional ADEs. These forces would come from the strategic reserve or from the military districts normally oriented toward NATO's southern flank. However, their commitment to an attack on Iran would not require any reduction in the "designated threat" to NATO's center region or in Soviet forces facing the PRC. 2/ Since a Soviet attack

1/ A ground unit's ADE "score" is the weighted sum of its firepower, maneuverability, and vulnerability expressed in equivalence to a U.S. armored division. The ADE standard excludes factors such as training, tactics, leadership, morale, and weather, all of which can be critical (in May 1940, the British and French were slightly superior to the Germans in ADE score, but decisively inferior in tactics and leadership). Further, ADE scores are largely static measures of equipment and personnel and do not account for the dynamics of a particular battle or campaign, including sustainability factors. Nonetheless, ADE scores are clearly more appropriate measures than "numbers of personnel," etc. For campaigns in which firepower is critical, they measure the potential of the two forces. The ADE scores used in this study differ from those in use in Europe, reflecting the very different terrain in Iran and the impact of terrain on weapons effectiveness.

2/ The Soviets might reasonably bring in one or two first-line European divisions to lead the invasion. This would not effect buildup rates, however.



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	would almost certainly increase tension in NATO, the Soviets would probably be reluctant to draw significantly on forces in Central Europe or the Western Military Districts unless the United States or its WATO allies had diverted significant forces to Iran. The use of Soviet Far Eastern forces would depend critically on the posture of China, thus giving the PRC a significant indirect influence on the military balance in Iran.					
colase Dr - Dis en re	Evidence on the quality of the forces the Soviets might commit is also ambiguous. On the one hand, the forces they main- tain in that region are at a low level of readiness (the only Category 1 forces in the region are two airborne divisions), are more lightly equipped than those in Central Europe or the Far East, are among the last Soviet forces to receive modern equipment, and seem to be primarily oriented toward Turkey. Some indications of these equipment limitations are shown in the table below.					
100 100 100	<u>Table 1</u> (S)					
31	READINESS OF SOVIET FORCES BY AREA a/ (U)					
	Cauc	asus + Turkes	stan <u>GSFG W</u>	estern MDs	Chinese Border	
	Readiness of Tank & Motorized Rifle Divs. Cat. 1/Cat 2/Cat 3	0/5/17	20/0/0	1/13/15	11/7/14	
	Average Number of Tanks/APCs per Division <u>a</u> /	233/277	368/346	327/255	254/339	
	% Mix of Tanks <u>b</u> / T-34 T-54/55 T-62 T-64	1% 86 5 0	0% 28 50 18	0% 42 48 6	4% 71 12 0	
	Artillery over 100mm per Division	123	110	143	146	
1	% Mix Towed/Self-Propelled	100/0%	72/28%	96/4%	100/ 0%	
	Mortars over 100mm per Division	64	35	50	61	
	SA-4, 5, 9	6	33	17	10	
	ZSU 23-4 SP	10	- 16	9	8	
	<ul> <li>a/ The number of equipment items per division includes equipment in non-divisional units, mobilization divisions, and storage depots.</li> <li>b/ May not add to 100% due to presence of unknown model tanks.</li> </ul>					

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To the extent that these units are manned by local personnel, there may be further limitations on their effectiveness since the population in these areas is overwhelmingly non-Russian (Armenian, Azerbaijani, Georgian, Turkmenian, and Tadzhik). According to Soviet census figures, between 70% to 85% of Soviet citizens of these nationalities are not fluent in Russian. Although the resulting ethnic differences and language problems appear to be manageable--in part by concentrating Russians and Russian speakers in key positions--it is on the whole doubtful that the quality of personnel in these divisions is as high as in Soviet divisions in Central Europe.

On the other hand, historical experience has probably given the Soviets a very low estimate of the quality of Iranian ground forces, even allowing for substantial improvements in the last 30 years. The low readiness of Soviet forces near the Iranian border in part reflects the even lower readiness of Iranian forces and the fact that they are largely deployed far from the Soviet border, particularly near Iraq. Moreover, despite their older equipment, Soviet forces in the area appear to have been tailored to some extent for combat in the mountainous terrain found there. One company in each battalion, for example, receives special training in mountain warfare. One of the three Soviet air assault brigades is located there (the other two are along the Chinese border), and the forces in the area have more mortars (a particularly effective weapon for mountain war) than in other areas.

b. Jranian Forces. Under the Shah, Iranian defense policy acknowledged a Soviet attack as the most serious threat to Iran's security; but Iranian officials argued that their armed forces could do little except delay a coordinated full-scale Soviet attack until such time as the United States would come to their aid. For this reason, and because they believed a direct Soviet attack to be improbable, and finally because they feared provoking Soviet wrath, the Iranians did not deploy or configure their forces in a way well-designed to defend against a Soviet invasion. The bulk of Iran's forces were deployed along the Iraq border, although one division was deployed in the northeast corner along the Soviet border. In the northwest part of the country, opposite the main Soviet force, Iran had little more than one brigade of infantry deployed at Tabriz. There were no detailed plans nor joint training programs for a coordinated U.S.-Iranian defense against a Soviet invasion.

Iranian ground forces prior to the revolution consisted of four infantry divisions, three armor divisions, five separate brigades and associated supporting artillery, and special forces units, amounting to approximately 7.5 ADEs. At present, the army is in disarray, and it is not possible to predict how soon, if ever, the army will be restored to its previous strength. The Iranian army has had little combat experience since 1941, except for action in Oman against PDRY-supported rebels. The Iranians used that experience to improve the quality of their forces; but their performance was still far less than might be expected, given the army's first-rate equipment.

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### DEPLOYMENT OF U.S. FORCES TO IRAN

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Intial Increment	Arrival Time	Mode	ADE Score
4 TFW	17	Air	
82d Abn 1st Bde 2d Bde 3d Bde	9 10 13	Air Air Air	.23 .23
MAF 1st Bde	11	Sea	.23
lst Cav lst Bde <u>a</u> /	18	Air	.27
MAF 2d Bde	19	Sea	.32
lst Cav 2d Bde 3d Bde	24 29	Air Air	.27
MAF 3d Bde	29	Sea	. 32
Combat Support	30-42	Air & Sea	.10
194th Arm. Bde	37	Air	.27
6th ACCB	40	Sea	. 30
Combat Service Support	39-48	Sea Subtotal	3.13
Follow-On Force			
I MAF 9th Inf 101st Airmobile 4th Mech	50 63-75 78-82 82-87	Sea Sea Sea Sea	. 96 . 60 . 57 . 82
III MAF	86	Sea Subtotal Grandtotal	.96 3.91 7.04
a/ 2d Mech Div 1n	1982 <b>.</b>		

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c. U.S. Forces. The availability of U.S. forces for war in Iran is constrained by concern for other contingencies and by our strategic lift capability. Table 2 shows an <u>illustrative</u> 1/U.S. force that could perhaps be deployed to Iran within 45 days, and a follow-on force that could arrive by the end of three months.

The Deployment Schedule Assumes No Constraints on LOCs, or on Air and Sea Lift Availability. If air and sea lift must come through the Pacific or around Africa, for example, airlift deliveries would be about 40% slower and sealift deliveries from East Coast ports would be about 30% slower. This schedule can not be met unless Stage III CRAF has been activated and reserve airlift aircrews have been called up, nor unless Iranian ports and LOCs operate efficiently. Indeed, if plans for deployment of U.S. forces to Iran are not mede in advance as they are for NATO, U.S. deployment times are almost certain to be much slower than shown.

1/ While the Shah was in power, this force might possibly have been adequate in helping Iranian forces defend Iran. Given the present state of the Iranian armed forces, it is very likely that this force would not be adequate.

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Chief, Declass Sr Dir, & Rec. Div, WHS d. Iraqi Forces. 1/ The most likely circumstance for a Soviet move against Iran is probably a crisis or war in which Iraq is already involved. Iraq's behavior will depend heavily on what Iraqi leaders perceive to be the probable outcome. If Iran seems likely to be defeated by the Soviet Union, then Iraq may see an opportunity to make gains at Iran's expense. However, even the most radical Iraqi regime will fear the consequences of a Soviet occupation of Iran and, even more, the costs of participating in an unsuccessful Soviet aggression. Thus, Iraqi behavior will depend less on the political tendencies of the Baghdad regime--although moderate tendencies should certainly be encouraged--than on the perceived ability of the United States to lead a successful resistance to Soviet military force.

Iraq could have a significant influence on the mili-157 tary outcome. Even in peacetime, Iran's deployment of forces against Iraq is a major cause of the perceived imbalance of forces on the Soviet border. Iraqi forces consist of four mountain infantry divisions, three armored divisions and two mechanized divisions, amounting to roughly 7.8 ADEs, or about the same combat power as the Iranian army under the Shah. These forces are deployed mostly in the vicinity of the Iranian border. As with the Iranian army, their real capability is probably much less than indicated by the ADE score, which measures only materiel capability. Although the Iraqi forces have had some combat experience, most recently against Israel in the 1973 war and against Kurdish rebels in northern Iraq, their performance has been below the standard, for example, of the Syrian army. While the operational effectiveness of the Iraqi army is steadily increasing, it is very difficult to estimate what level it has reached today, or will reach in the mid-80s.

e. Comparative Build-up Rates. Figure 1 shows the rates at which U.S. and Soviet forces could build up in the vicinity of Tehran, if: neither side faces opposition, all LOCs and enroute bases are available, both sides mobilize simultaneously, U.S. active ground and air forces begin moving immediately, and Soviet ground forces require three days to mobilize and seven days to prepare for movement into Iran.

1/ Although Iraq is often looked at as a client state and probably ally of the Soviet Union, it is very possible that Iraq would actively oppose any overt Soviet military moves towards the Persian Gulf.

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The curve shows clearly the substantial advantage the Soviets could achieve by their proximity and direct land access to Iran. However, even they are limited by the remoteness of the area from the main concentrations of their ground forces and by the limited capacity of the roads leading to and into Iran.

The curves are optimistic about the speed with which the United States can deploy forces. We have assumed (1) a U.S. decision to move forces and call up reserve airlift crews even before receiving confirmed intelligence of Soviet mobilization, and (2) no problems of access or hostile action enroute, even on LOCs that run through the Eastern Mediterranean and the Suez Canal. On the other hand, if U.S. tactical aircraft were deployed earlier--perhaps during the development of the crisis--thus freeing airlift that would otherwise be used to deploy air forces, U.S. ground forces could arrive approximately a week earlier than shown in the graph.

(5) While Soviet buildup would not similarly depend on access to foreign bases or overflight of foreign countries, it could be slowed by opposition en route. Moreover, although it would represent a major escalation, even the routes inside the Soviet Union could be interdicted. The main Soviet road and railroad in the Transcaucasus run along the Iranian and Turkish borders for hundreds of miles and would be vulnerable to interdiction by air and even artillery. Soviet roads and railroads east of the Caspian Sea are almost equally vulnerable if aircraft can penetrate. Once inside Iran, the Soviets would not be able to use the different gauge Iranian railroads, and their road movements could be slowed even more easily by demolition of bridges, tunnels and mountain slides.

2. The Impact of Geography on Ground Force Operations 1/(U)

a. Terrain in Iran (U)

The terrain in Iran is distinguished by formidable mountains, large expanses between potential sources of support (the distance from Jolfa to Chah Bahar is equal to the distance from Seattle to Albuquerque), and by a limited infrastructure of roads and airfields. Thus, the terrain in Iran would severely constrain the military options of both the defense and offense. Also, air power makes forces using mountain LOCs particularly vulnerable.

Conditions for cross-country movement of tracked and wheeled vehicles range from difficult to impossible over more than three-fourths of Iran, including most of the area along the Soviet and northern Iragi borders. In the Northwest, opposite the largest Soviet

1/ This section has been only slightly revised to reflect the recent events in Iran. Its tone is more optimistic than is now appropriate since the Iranian army is in shambles. However, the material is still relevant because any effective defense of Iran would have to exploit the mountains, and since a Northern defense might be desirable even if U.S. forces bore almost all of the burden (asjuming Iranian cooperations, however).



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peacetime deployments, this difficult terrain extends for hundreds of kilometers and would force all large-scale military forces to depend primarily on roads and railroads for movement. The only reasonably large areas cross-country movement are: (1) Iran's Caspian seacoast and a short distance east and west along the border (separated from Tehran, however, by some of the highest parts of the Elburtz Mountains, which reach heights of 18,000 feet less than 100 km from the Caspian); (2) the North Central plateau on which Tehran is located; and (3) the southwestern corner of Iran on the Iraqi border (an area, however, that contains Iran's principal ports and oil facilities). Along the main road from the Soviet Union, through Tabriz to Tehran, only a few narrow areas are favorable for cross-country movement, and even in these, good defensive positions abound. In the Northeast, once Soviet forces broke out of the mountains south of Mashhad, they would have relatively open access to Tehran; but they would have to travel some 800 kilometers through largely desert country to get there.

b. Effect on Ground Force Operations

The expanse and difficulty of the terrain would affect ground operations by both sides in a number of ways:

<u>Movement</u>. Because cross-country movement is so difficult, major military movement from the North and Northwest would have to be funneled along the four roads that serve as the main avenues of approach from the Soviet Union, and along the three roads that cross the northern portion of the Iran/Iraq border. Additional access might be achieved along secondary routes or through Afghanistan. (In 1941, for example, Soviet forces attacked along a fifth route from Sarakks to Mashad.) In general, however, the steep grades, hair-pin curves and difficult cross-country movement would exacerbate maintenance problems --particularly of the older Soviet equipment found in the area.

(5) Unlike Europe, where cutting one or two roads would have little impact on the redundant transportation networks, blocking the few main routes in Iran could significantly thwart an attacker. Each time a bridge, tunnel, or mountainside road section was destroyed, the attack would have to stop, and engineers would have to move forward to make repairs along a road congested with combat units. Not only would the attack lose momentum, the attacking forces would tend to bunch up and become more vulnerable to ground and air interdiction. 1/

(5) Table 3 shows the number of major bridges, tunnels, and landslide areas on the major LOCs from the Soviet border into lran. It is reasonable to expect, based on experience, that it would take two days to replace a bridge, one day to repair a cut in the road, and five days to restore a tunnel. These may underestimate

1/ A similar situation confronted xxx Corps in September 1944 when it was attacking along a single line of communication to relieve the airborne forces at Arhnem (recall account in "A Bridge Too Far").

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overall delays since there would be shortages of bridging equipment, since float bridges can not span steep ravines and gorges, and since major construction efforts rather than simple clearing operations would probably be needed to reopen tunnels or rebuild roads along mountainsides. Greater delay could be imposed if the attacker were forced to repair these obstacles while harrassed by the defender.

#### Table 3 (S)

#### MAJOR OBSTACLES IN IRAN (U)

Route	# Bridges	# Landslide Areas	<u># Tunnels</u>	Distance to Tehran
Soviet Borde	r			
1. Jolfa-Teh	iran 25	4	۱	735 km
2. Astara-Ra Qazvin	sht- 30	2	6	565 km
3. Gorgan-Te	hran 17	2	12	410 km
4. Quchan-Ma	shad- 1	2	0	1000 km

The limited numbers of obstacles on the fourth route reflects the fact that <u>depth</u> of difficult terrain in the Northeast is much less than in the Northwest. Once Soviet forces reached Mashad, they would have relatively open access to Tehran. However, there are only four Soviet divisions in this area, the road through the mountains runs along ridge lines and mountainsides where off-road dispersion and movement is impossible for all vehicles, and the entire road is vulnerable to air attack. Once the Soviets reached Mashad, they would still have to cross 1,000 km of largely desert country, where air interdiction could be highly effective, before reaching Tehran. Repeated air attacks with PGMs or B-52s could seriously hamper movement along the LOCs. On route 4, for example, even though there are few major obstacles, the northern passage through difficult mountains could easily be cut and recut where it winds tortuously up and down the mountains.

•(5) Other routes through the mountains that could be used by Soviet forces are even more difficult and, hence, more easily cut. If left undefended, however, these alternate routes could be used to outflank the defenders. In order to protect against this possibility, the defenders would need to maintain surveillance of these routes, and to have reserves available to move quickly to defensive positions along these routes.

Yulnerability to Air Attack. Air attacks against forces moving along the narrow roads would greatly slow military movements through the mountains. The channelization of forces

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along a few main roads could make reconnaissance and target location easier. 1/ The terrain also makes it difficult for vehicles and air defense units to disperse off the roads to escape air or artillery attack. The lack of vegetation in most areas also means that attacking forces would have limited cover or concealment from the air. The rugged terrain might, however, provide cover from flat trajectory fire and concealment from ground observation.

Use of Airmobile and Airborne Forces. According to Soviet doctrine the main attack in mountainous terrain would be supported by infantry, airmobile, and airborne attacks along the LOCs and in the defender's rear areas (to seize critical points such as bridges or mountain passes, to disrupt or seize air fields or simply to create confusion). Air mobile attacks generally are to be conducted within range of artillery support by light company- or battalion-size forces that must link up with the main attack within hours. Airborne attacks may be larger and deeper, but generally must also be conducted close enough to the main forces to allow linkage within a day or two. However, if they have time to build up defensive positions exploiting terrain advantages, airborne units might be able to hold out longer in mountainous terrain.

The Soviets have sufficient helicopters in the area to conduct 5-10 battalion-size air mobile attacks per day against targets in close proximity to the main attack. However, the rugged terrain and the high altitude would severely limit the use of helicopters in air mobile assaults. Deeper penetrations would be possible on a more limited scale, but they would risk the loss of entire units unless aerial resupply could be established or the main forces could move fast enough to link up. The ability of the defense to prevent such penetrations would depend on the size and mobility of its reserves and the effectiveness of its air forces.

The Soviets could conduct a division-size airborne attack on Tabriz or even Tehran. An attack of this magnitude could be designed to seize the airfield at Tabriz or to seize the command and control centers in Tehran and unravel the entire Iranian defense. However, Soviet airborne forces would be extremely vulnerable to air attack en route and to heavy forces on the ground if the defender could bring reserves to the area.

c. Net Effect of Mountainous Terrain

Although intuition suggests that the defense should have a major advantage in mountain warfare, Clausewitz and most historical evidence argue to the contrary.2/ Defensive forces trained in positional

1/ The offense could use smoke tactics to severely reduce the vulnerability along mountain roads.
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2/ Canby and Luttwak, op. cit.

warfare are vulnerable to flanking attacks cutting the "well-positioned" defensive units off from their own LOCs. Successful defense appears to require tactics that do not come naturally to most armies, including our own. Key elements include: mobility, flexibility, and aggressiveness (i.e., a willingness to repeatedly harass the offense by striking at its lengthy and vulnerable tail). Preplanning for demolitions, reconnais-sance, etc., is also essential.

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A noticable example of good defense was the Italian <del>(6)</del>campaign in WW II, where the Germans exploited the rugged terrain to impose heavy costs and delays on the advance of a superior allieo force. However, most historical campaigns show success for the offense. For example, German armored forces overran Yugoslavia and Greece in three weeks even though the British, Greek, and Yugoslav ground forces were roughly equal in strength to those of the Germans and their Italian and Hungarian allies. One problem, of course, was that the combined strength of the three defenders was much less than the sum of the separate strengths. In addition, however, the Germans exploited the advantages that accrue to the offense in mountain operations.1/ They observed the imperfections in British and Greek deployments and pushed through the weak points faster than the entrenched defenses could redeploy. They also closed off the defense's resupply and retreat lines with air strikes, and used strikes on rear areas to demoralize the defenders.

Able to slow the offense substantially. Given Soviet doctrinal emphasis on high rates of advance and the need for lightning successes, the prospect of facing a competent defense (even if by a much smaller force) could be an important deterrent.

#### d. Critical Areas in Iran

(5) Successful exploitation of the mountainous terrain in Iran's defense will also depend on when forces are committed, because the terrain is not equally formidable throughout the country. There are three basic alternatives to consider: (1) a defense that begins in the northern mountains, not with the aim of defending every inch of Iranian territory but to delay and attrite Soviet forces; (2) a defense that allows a rapid Soviet penetration of the mountains but aims at a successful defense of Tehran and central Iran; (3) a defense that attempts to control an enclave on the shore of the Gulf itself using the Zagros Mountains as a defense line. Only the first and third alternatives permit the exploitation of mountainous terrain-a strategy that would be necessary to overcome the quantitative Soviet advantages in anything larger than a fairly limited attack.

1/ See Carl Von Clausewitz, "On War" (translated by M. Howard and P. Paret, 1976), 1832.

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(1) The Northern Mountains. Although Soviet advantages are greater the nearer Soviet forces are to their own borders, the northern mountains offer the defense two important military advantages; (a) favorable terrain; and (b) protection of rear areas, ports and SLOCs from Soviet air attacks and flanking attacks through Iraq or eastern Iran.

In the Northwest, the Soviets could be forced to fight through hundreds of miles of mountainous terrain before reaching areas where they could concentrate and bring their quantitative superiority to bear. Even if they broke through the shallow mountains in the Northeast, the Soviets would have to cross a huge expanse of desert on limited roads to reach key objectives near Tehran.

A forward defense, similar to Auchinleck's plan in the event of a German push through the Caucasus (see Section 1), would involve the commitment of delaying- and blocking-forces along the Soviet and Iraci frontiers, and in some depth along the main LOCs, with a reserve of heavy forces in the rear to deal with possible breakthroughs, or with airborne attacks on airfiedls and other key strategic points.

The main obstacle to such a defensive strategy would be the short time available to move forces into position for a complex defensive operations with no prior joint U.S.-Iranian planning (and perhaps little unilateral planning either). In addition, achieving air superiority would be difficult in the North, close to Soviet bases.

(2) Tehran and Central Iran. Should the Soviets succeed in massing forces in the central plateau area around Tehran, they would have a more extensive road network and much more favorable conditions for cross-country movement. In this terrain, the Soviets could exploit numerical advantages effectively and maneuver against the defender's LOCS.

(S) The loss of Tehran could lead to the effective collapse of both Iranian forces and the Iranian government itself. Beyond Tehran there would be few natural obstacles until the Zagros Mountains some 200-400 miles further south. Roughly half of the important airfields in Iran are north of the Zagros Mountains.

Even if the Soviet succeeded in taking the capital and the central plateau, they would still be a long way from Iran's oil producing areas or the Persian Gulf shore. Their LOCs to Tehran could be shortened considerably, however, by opening the roads from the Caspian Sea ports.

(3) The Zagros Hountains. The Zagros Mountains extend along the northern portion of the Iran/Iraq border and sweep in a southeasterly direction through a point about 300 kilometers south of Tehrar. They would help to protect the oil producing areas from Soviet forces moving through Iran. There are only three major north-south routes through the mountains, and these routes suffer from many of the same constraints as those in the North. A defense FIGURE 2 (U)



### PRINCIPAL GEOGRAPHIC REGIONS OF IRAN

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in the Zagros Hountains could be seen as a forward defense for the entire Gulf, for once the Soviets had broken through the Zagros Mountains, a secondary line of defense in Iraq or Saudi Arabia would be extremely difficult to maintain.

(S) Moreover, access to Southern Iran--or directly to Saudi Arabia--would be much easier from Irac. Just south of the Zacros Hountains, there is one good avenue of approach from Al Kut in Iraq to Ahvaz in Iran, where cross-country movement is possible year-round. On the Iranian side of the border, there is a well-developed road network. Further south, the major constraint on cross-country movement would be local Spring flooding that may make large areas impassable. In the far south the Tigris and the Shat Al Arab Rivers form major water berriers to attack on Abaden and Khorramshahr. Once these barriers are crossed, however, both cities are vulnerable to attack.

A defense position built on holding the Zagros Fiountains would have the advantages that: (1) U.S. supply lines from see ports would be shorter than at Tehran or in the North; (2) Soviet LOLs would stretch more than 500 kilometers even from Caspian Sea ports; (3) Soviet aircraft would face severe range limitations; and (4) the Zagros Mountains are at least as formidable as the mountains in the North.

(5) On the other hand, there would also be important military disadvantages in having lost so much of lran, including most of the important cities. The Iranians would protably be much less willing to cooperate unless they believed recapture of the North was in the cards. Furthermore, by breaking through the mountains at one point in the northwest, the Soviets would have direct access to lraq. They could then circumvent the rest of the Zagros Mountains, and move directly to the Gulf through lraq. Although the LOC would be long (1,800 km from the Soviet border to Basra), the Soviets could use lraqi railroads and tank transporters (the Soviets have no tank transporters in their three southern military districts; lraq has 800). 1/ Although lraq would probably be reluctant to permit the Soviets to use lraq in this way, they might have little choice in the matter, and they might have Soviet promises of a good share of the spoils.

Although the Soviets might move Southward in Iran; if they could defeat the defenders in the Zagros Mountains, they would control all of Iran. Such a campaign could take months, but loss of Iran would render Gulf oil facilities and SLOCs indefensible, and would give the Soviets control of the Strait of Hormuz. Once U.S. access to the Gulf were ended, Soviet conquest of Kuwait and Saudi Arabia could follow quickly.

1/ LOCs and airfields in Iraq would be vulnerable to air attack, so one should not assume that this Soviet strategy would be without pain. Given the present circumstances and the lack of U.S. and Iranian military planning, a southern enclave strategy might nevertheless be our best prospect for a <u>conventional</u> defense of Iran and the Gulf. However, the prospects for the success of such a strategy could not be considered good. Thus, the deterrence role of nuclear weapons should not be ignored nor disparaged.

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3. Types of U.S. Forces That Could be Deployed (U)

Decisions on the types of U.S. ground forces that would be necessary for a defense in Iran should be based on the consideration of the terrain, the type and capability of both enemy and friendly forces, the amount of warning or preparation time available, and the mission of the forces.

(S) Airborne Forces. If rapid deployment were essential, an airborne or an airmobile division would probably be the best force to send. For example, the 82d Airborne Division, with its support, could be airlifted to !ran in about 11 days. The entire division could be air landed at an airport and moved to the battle area, or parts of the division could conduct an airborne assault directly in the front.

(S) In addition to its short deployment time, an airborne division is physically conditioned to fight in strenuous terrain, requires the least support of all Army division types, and is least dependent on a well-developed support infrastructure. However, the 62d Airborne has not been trained in mountain warfare, and would need such training in order to carry out a successful mountain defense.

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There are other disadvantages to an airborne division:

(1) it would be less than 50% ground mobile;

(2) it would have a battalion of light tanks (M551s), but no medium tanks, armored personnel carriers, or selfpropelled artillery;

(3) If it were committed against Soviet forces any distance from the air base at which it landed, it would have to take time to assemble transport, move, and prepare defensive positions. The time involved in this process could eliminate the advantage provided by its strategic deployment time.

(4) It would be particularly vulnerable to attacks by Soviet heavy forces in open areas or, if there were no time for defensive preparations, in the mountains. This vulnerability could result in high casualties.

Airmobile Forces. The 101st Airmobile Division could be deployed as rapidly to Iran as the 82d Airborne. It has no tanks, nor the capability to conduct an assault landing directly in the combat

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area. However, its helicopters provide good tactical mobility. Airmobile forces could be particularly useful in mountainous areas to protect flanks and LOCs from Soviet infantry and airborne forces and to force the Soviets to defend their own LOCs. 1/ Since the airmobile division lack. armor, it would have to be supported by heavier forces if it were to be used to defend against regular Soviet forces in the mountains. Except for its attack helicopters, the 101st Airmobile would have very little capability against Soviet heavy forces on level ground.

Infantry Forces. An Army infantry division could be deployed to Iran in about 15 gays. Once on the ground, at least 50% of the infantry battalions would need transportation. Although an infantry division is heavier and has more firepower than an airborne or airmobile division, only two of the 10 battalions in an infantry division are heavy--one mechanized and one tank. An infantry division could be employed in the mountains, but it is not clear what mix of supporting armor it would need even there to face the Soviet threat, and whether two heavy battalions are enough. It would need external helicopter support to be employed in airmobile operations. Obviously, it would have serious difficulty defending against Soviet heavy forces on level terrain. 2/

(5) Marines. A Marine Amphibious force would have a unique degree of flexibility in the ways it could be deployed to and employed in Iran. It could deploy on its own amphibious shipping, on common user shipping or on strategic airlift. Should the three Marine divisions be deployed to Iran by air and sea, the first could be delivered by air in about 14 days, the second and third divisions could arrive by air and sea by day 3C. Each Marine division would have the capability to provide heavy forces in the valleys, infantry forces in the hills along the valleys, and airmobile forces on the flanks. Each Marine Air Wing would be capable of providing both air defense of and close air support to the ground forces. This unique air-ground capability could be particularly important in a fast developing crisis in Iran because there would be no time lost in coordinating air-ground operations.

However, the Marines, like other forces, would have a number of problems operating in Iran's northern or southern mountains although they do have a Mountain Wartare Training Center in the Sterras of California. They may not have <u>sufficient</u> combat service support units to support operations far from the sea, and could need additional support from the Army. Marine artillery is mainly towed and would be difficult to disperse off the roads. Also, current Marine helicopters

1/ Helicopter performance is seriously degraded by high altitude and high temperatures. However, such problems apply to both sides. The Army's UH-60 has been specifically designed to carry mission loads at severe temperatures and high altitudes and will be less sensitive to these conditions than current Soviet helicopters.

2/ Camby and Luttwak, op. cit., argue for forces even lighter than U.S. infantry divisions, and emphasize that firepower is largely irrelevant for defense in the mountains. Armor is most valuable in blocking exits from the mountains.

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ere essentially designed for operations at sea level and would be restricted in the mountains. The capabilities of the Marine Corps' helicopter (CH-46) is being upgraded in this respect.

(5) If echenized end krmored Forces. A heavy division could be loos deployed to lran in about S2 days. Once on the ground, it would be loos mobile in its own vehicles. The division's infantry battalions could be mobile in its own vehicles. The division's infantry battalions could mobile in its own vehicles. The division's infantry battalions could be move or dismounted in torced to fight dismounted in associate to move dismounted in torced to fight dismounted in very mountain. It would need helicopter support to move dismounted in the roads betret to move dismounted in astrona, but its self-propelied in astronations, but its self-propelied in the nounted in astronations. It here allows to move dismounted in the roads betret to move dismounted in the roads betret to move dismounted in the roads betret to astronations.

If the objective were to assist in the defense of the northern mountains, the first goal would likely be to move forces or the loist hirmobile Divisions might be appropriate, if properly or the loist hirmobile Divisions might be appropriate, if properly prepared for mountain wertare. If more than a U.S. "stiffener" were needed, the initial division could be followed by one to two krmy heavy or hight divisions or Marine divisions augmented by tanks and APGs. Since the enemy consists largely of heavy divisions, some complement of heavy forces might be needed even in the mountains. In addition, even with a skillful exploitation of the mountains. In addition, even throughs, particularly on the Marka approach. If it appears likely throughs, particularly on the Marka approach. If it appears likely throughs, particularly on the Marka approach. If it appears likely the bulk of U.S. forces would be fighting in the more open terrain, a reserve that U.S. forces would be fighting in the more open terrain, a reserve the bulk of U.S. forces should be heavy. It the bulk of U.S. forces should be heavy.

(5) In all cases, it would probably be useful to deploy the bin Air Cavalry Combat Brigsde (ACCB) 1/ because of its tactical mobility and anti-tank capability. In addition, allied forces such as British commandos and French Legionnaires could be useful as light infantry and would provide political support for U.S. actions.

1/ The 6th AccB is a compate support brigade with 153 attack helicopters. It designed to attack enemy armor units. Each of its helicopters will be equipped with 8 TOW missiles by 1950. Each attack helicopters will be equipped by 01.6 per launch.

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### THE AIR BALANCE (U)

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The outcome of the air battle is likely to have a major impact on the ground battle in Iran because of the vulnerability of mountain LOCs to interdiction and the vulnerability of moving forces on mountain and desert roads to air attack. 1/

1. Forces in Place (U)

(5)-Table 4 shows the number of fighter aircraft and base facilities available to Soviet forces in the immediate border areas.

#### Table 4 (S)

## SOVIET IN-PLACE FIGHTER/BOMEER BEDDOWN--1978 (U)

	- Number Of Bases	Aircraft Shelters And Revetments	Fighters
Tactical Aviation PVO	11	518 <u>1</u> /	290 2/
Somber 3/	-	483	390 - 261

In addition, the Soviets have 305 revenments at eight potential 11 dispersal and augmentation bases in the region. 21

Does not include 225 Soviet trainer aircraft that are only marginally capable of combat operations. 31

Includes 35 Frontal Aviation aircraft, 116 LRA aircraft, and

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The majority of the Soviet in-place fighter aircraft belong to PVO units and are expected to provide air defense of the Soviet Union. If they are committed to the defense of Soviet forces in Iran, it is unlikely that they would go beyond the limits of their GCI control--no more than about 50 miles inside Iran. This still would make PVC aircraft available for missions over Tabriz (48 miles from the border) and Mashad (40 miles from the border). PVO could play a significant role in caining air control over the North, particularly in the early days of fighting.

181 facing the Soviets, Iran has 464 fighter aircraft (including 120 training aircraft equal in capability to their operational aircraft). Numerically, this size force provides a basis for a credible air defense. However, it is very unlikely, particulary following the Iranian revolution, that the Iranian air force would be effective against the Soviets.

(51 The air balance would be affected to a large degree by geography. Iran's large size and the relative scarcity of air bases limit the abilities of friendly air forces to mass, of aircraft at one base to provide support for another, and to respond quickly to warning of enemy attacks or to requests for air support. Figure 3 compares distances and air base density in Iran and the Federal Republic of

See Canby and Luttwak, op. cit., for alternative views. 1/

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far larger than Germany and has far fewer air bases. For example, within 250 nautical miles of Fulda, Germany, there are 32 fighter bases. In Iran, on the other hand, within 250 miles of Tehran, there are only four fighter bases. The maximum distance between air bases in the FRG is approximately 400 miles, while in Iran the maximum distance is over 1,000 miles.

#### U.S. Tectical Air Reinforcements (U)

(5) The major constraint on the effective use of U.S. air power is the limited support available in Irar. Although Iran has 25 air bases with adequate runways, there are only 11 military bases capable of supporting air operations and only & operational fighter bases. These bases are not situated to support efficient operations against a Soviet attack, and they may not be capable of handling the flood of U.S. tactical and strategic mobility aircraft. There are only 354 inefficiently distributed shelters in Iran to protect the 460 Iranian tactical aircraft. Without a major construction effort, there would be no shelters for U.S. aircraft. In addition, the most forward bases--Tabriz, Mashad, and, perhaps. Tehran-are extremely vulnerable to Soviet air attack.

Table 5 describes tacain forces we might commit to an Iranian contingency. Under favorable assumptions concerning enroute basing, overflight and tanker availability, the first of four ouickreaction Air force wings could arrive between M+1 and M42, and the last by M+5. 1/ The constraining factor would be the movement of the aircraft themselves. The 190 fighter aircraft of a MAF could be deployed in a similar time, although doing so would place an additional demand on Iran's limited support infrastructure. Neither Air Force nor Marine units would be fully operational immediately, and preparations would be ready for operations in the Gulf of Oman/Arabian Sea within 1-2 weeks-less if they had begun movement prior to M-day. These forces amount to a total of about 590 aircraft.

 $\frac{1}{1}$  See Table 2 for an illustrative schedule showing both groundand air-forces.

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Unil	Mission	lype	Number	<u>Closing lime</u>
USAF Contingency Force (4 TFW equivalents)	Air-to-Air Swing Ground Attack	F-15 F-40 & E F-46 F-70 A-10	72 72 24 24 48	
	Reccy	RE-4	14	M+5 <u>a</u> /
Reinforced Marine Air Wing	Air-to-Air Ground Attack	F - 4 A - 4 A - <del>6</del> AV- 8A	72 40 40 <u>40</u> 192	M+É
lwo Carrier Air Wings	Air-10-Air Ground Attack	F-14 A-6E A-7[	48 24 72 144	K-Da y- M+ 14

a/ The initial wing could arrive within 24-36 hours.

(5) The preceding discussion assumed that ground forces would be airlifted to Iran as soon as possible according to the schedule in Table 2. However, an alternative would be to devote the entire strategic airlift to an early buildup of U.S. tacair. If it were possible to use Turkish and Arabian-Feninsula bases, and air refueling, then the Air Force believes 13 Tactical Fighter Wings (936 aircraft), 1 MAW (192 aircraft operating from a base line), 2 carrier air wings (144 aircraft), and 30 8-52s could be brought in within 15 days. This would be a credible force against an estimated reinforced Soviet capability after 12 days of 1,306 tactical fighters and 258 bombers (LRA and SNA). However, the tradeoff between early ground forces and extra tacair is difficult to judge. Moreover, it is unclear that we could use the necessary Turkish and Arabian Peninsula air bases, and it is doubtful that the buildup could be accomplished and supported without substantial preparations and exercises.

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POSSIBLE USAF AND USMC DEPLOYMENTS TO IRAN (U)

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D. EFFECT OF U.S. DEPLOYMENTS TO IRAN ON A SIMULTANEOUS GR NEAR-SIMULTANEOUS NATO BUILDUP (U)

(5) If U.S. and Soviet forces clashed in Iran, there would be a high risk of conflict elsewhere as well. In particular, there would be incentives for the Soviet Union to pressure the United States and its allies by threatening NATO, especially if by forcing us to mobilize in Europe the Soviets could significantly reduce our capabilities in the Fersian Gulf without similarly reducing their own capability. Unfortunately, we have very little capability to deal simultaneously, or nearly simultaneously, with conflicts with the Soviet Union in more than one region.

(S) In many cases, measures that may seem to reduce flexibility and our ability to deal with simultaneous wars in fact have the opposite effect. For example, developing POMCUS stocks in Europe increases our ability to deal with contingencies elsewhere by reducing the lift resources needed to move forces to Europe. Similarly, creating specialpurpose forces for an Iranian contingency reduces the resources needed to achieve a given level of effectiveness, and thereby increases the resources left to support NATO in a simultaneous contingency.

(حر) The effects of an Iranian contingency would depend on circum-Stances:

-- Simultaneous or near-simultaneous contingencies would primarily strain airlift. The Iranian deployments discussed here !/ would use 100% of our airlift assets initially, so that even much slower rates of deployment to Iran would substantially reduce the speed of our early deployments to NATO.

-- If the NATO deployment to Europe did not begin until after the main U.S. forces were deployed to Iran and sealift had taken over the resupply operation, the main effects would be felt in the loss of airlift surge and sustaining capabilities and in the loss of active Army support. 100% of active Army support units and strategic airlift surge capacity would be used up in a 45-day airlift to Iran. These capabilities could eventually be restored by calling up reserve Army support limits and restoring airlift spare parts inventories.

-- If the two contingencies were separated by enough time not only to permit dual-use of airlift assets but also to restore the readiness of lift and Army support forces, the main effect on our NATO capability would come from the commitment of ground and air combat units to Iran and the munitions and other materiel needed to sustain them. Even for a relatively large deployment to Iran, however, this would mean only a 10-15% reduction in U.S. Center Region combat capability, and a much smaller reduction in total NATO capability.

1/ See Table 11. Again, under present conditions in Iran, these deployments are illustrative for discussion purposes and would probably not be adequate to successfully defend Iran.

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1. Ground Forces (U)

(5) <u>Combat Forces.</u> Deployment of U.S. Army forces to Iran would affect the total availability of ground forces in NATO, and that impact would be felt disproportionately in the early stages of a NATO deployment to the extent that units deploying to POMCUS stocks were reduced. By 1984-86, all active Army divisions but the 2d Mechanized (once it returns from Korea), the 82d Airborne, and the 101st Airmobile will have POMCUS stocks in Europe, and some will be at less than full equipment levels in the CONUS. These POMCUS divisions would require additional equipment before they could be fully deployed to Iran.

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(S) Un the other hand, the effect of committing units to lran that do not have POMCUS stocks, and particularly units that come late in the NATO deployment sequence, would not be felt heavily in the early days of a NATO buildup. The impact could be delayed until quite late in the NATO build-up if there were enough time between the two deployments to activate reserve combat units to take the place of units committed to Iran.

The effect of deployments to Iran on the Army's NATO reinforcement capability is shown in Table 6 for a case in which the NATO deployment starts after the Iran deployment is completed, reserve units are mobilized to replace active units in the deployment schedule but reserve units are not able to fall in on POMCUS stocks. The illustrative CG contingency force would minimize the effects on early combat capability in the Center Region of a prior commitment to a non-WATO contingency by relying heavily outside of NATO on light forces, Karines, and heavy forces that do not have POMCUS. This effect can be seen in Table 6.

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### Table 6 (S)

### EFFECT OF AN IRANIAN DEPLOYMENT ON REINFORCEMENT (U) OF NATO'S CENTER REGION FY 75

CG (optingeney c	% of U NATO CC M+10	S. Army Domitment <u>M+9C</u>	Effect c Region F Force Ra <u>M+10</u>	on Center Toct/NATO tio, % M+90
(2.73 ADE)	0:	7:	01	41
CG Contingency Force b/ plus Follow-on (5.98 ADE)	85	15%	2:	95
Heavy Corps c/ (3.61 ADE)	17:	11;	5. 2.	6:
Light Corps d/ (3.12 ADE)	4*	55	15	4%

â/ b/

82d Abn., 1st Cav., 194 Boc., 1 MAF (2.80 NATO ADE).

CG Force plus 6 ACCE, 9th Inf, 4th Mech, 101 Airmobile, 20 MAF (6.26 NATO ADE). 1st Cav., 3rd ACR, 2d Arm (), 194th Bde, 4th Mech. 1 MAF c/.

d/

82d Abn, 3rd ACR, 9th Inf, 101 Airmobile, 1 MAF (3.25 NATO ADE). 457

Deployment of more than one division of Marines to Iran would reduce the size of SACEUR's strategic reserve for employment either in the Center Region or on NATO's flanks. Although this could create shortfalls at certain critical points, it is inherently difficult to say what effect a shortage of reserves would have. Deployment of Karines would have no impact on the D-Day balance in the Center

TOP Support Forces. In addition to the impact on combat forces, deployment of combat support and combat service support units to Iran would reduce the early and the total availability of these units in NATO. Most of these units are maintained in the reserves. The deployment of the limited number of active duty support units to Iran could mean that reserve units would have to be mobilized early to protect our NATO deployment capability. Since latest Army analysis shows that by end FY 82 about 31,000 spaces needed for the CG Contingency force will also have POHCUS, most of this shortfold might be met by activating the 32,000 man Army component of the President's 50,000 man call-up authority.

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(5) Sustainability. Finally, the use of munitions and equipment in Iran, in the absence of a contingency stockpile, would reduce the stocks available for NATC. If three divisions were to fight for two months in Iran, the programmed FY 84, 60-day capability for U.S. NATO forces could be reduced by as much as a week.

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2. Air Forces (U)

(S)" The deployment of tactical air to Iran would have a small impact on the total number of aircraft initially deployed to NATO's Center and Southern Regions, since there are more USAF active and reserve aircraft scheduled for NATO than can be supported in Europe. These additional aircraft would be deployed to NATO 2-3 weeks after D-Day. In other words, an Iran deployment would reduce the total number of aircraft available over time--about 10% of the total U.S. aircraft available for the Center and Southern Regions and less than 7% of the NATO aircraft available for the Center Region alone--but would not reduce the number of aircraft available at D-Day.

(S) If the Iranian deployment came first and some of our most modern aircraft were deployed to Iran, the effectiveness of our NATO D-Day force would be reduced. If the Soviets were forced to draw down on their NATO-oriented forces in order to match the U.S. in Iran, the net effect on the European balance might favor NATO. However, they could draw air reinforcements from elsewhere, particularly from the far East.

(5) The deployment of a Marine Air Wing to Iran would also affect the number of Marine aircraft available for other contingencies. If the Marines deployed 190 fighter/attack aircraft to Iran, they would have only 140 fighter/attack aircraft remaining (about 40% of their tactical force).

Strategic Mobility Forces (U)

(5) The impact of an Iranian contingency on the availability of U.S. strategic mobility forces for NATO would depend on the timing of the two deployments. If the deployments were simultaneous and both theaters were afforded equal priority, the NATO delivery capability would be reduced by about 50%. Once sea lift began arriving in Europe, about M+25, the impact of simultaneous deployments would be sharply reduced.

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If the NATL deployment followed the Iranian deployment, the effect would not be as large. Only about 60 ships (less than 10% of the ships rapidly available for a NATO deployment) and a few aircraft for emergency resupply and Med Evac would be needed to provide sustaining support to U.S. forces in Iran, provided critical sea lanes and Fersian Gulf ports could be kept open. There would be an impact on U.S. airlift cupability, however, due to the depletion of spare parts stockpiles. The current spares program for C-5s and C-14is provides for a 60 day capability. Beyond 60 days, the capability of these incraft would decline gradually as some parts became non-repairable. Although the actual impact is unknown, it is not expected that it would be ser ous. For example, a three division deployment to Iran would tale about 45 days, leaving only 15 days of spares support. If a NATO deployment followed closely, the C-5 and C-141 fleets' capability would begin to degrade after 15 days, increasing our dependence on CRAF aircraft for airlift. in addition, the 45 days of surge operations would exhaust the programmed surge capability of the C-5s and C-141s, reducing their flying time from 12.5 to 10 hours per day. As the time between the two deployments increased and damaged parts were repaired, these effects would be reduced.

The potential impact of an Iran deployment on the U.S. 1984 HATO delivery cerability is shown in Figure 4: The graph depicts two cases--one in which the deployments to Iran and NATO are simultaneous, and a second case in which airlift is dedicated to Iran for 45 days before NATO M-Day and dedicated to NATO thereafter, with sustaining support for Iran coming by ship. 1/ The graph depicts a worst case in which the C-5s and C-141s stop flying after exhausting their programmed 60-day spare parts stockpile and U.S. airlift thereafter is dependent

The effect of simultaneous deployment would depend on how airlift assets were actually allocated. The curve shows the effect on NATO of an equal division of airlift between the two theaters. The octual allocation in practice would depend on what was taking place in each theater. If the Soviets were actually invading Iran and only Dartially mobilizing Pact forces in Europe, a larger share of U.S. lift resources might be devoted to Iran. On the other hand, if we were confronted with a general mobilization and no actual combat in any theater, deployments to Iran would almost certainly take lower pricrity than deployments to Europe. Indeed, it is quite likely in the latter case that no airlift would be devoted to Iran until our forces in Central Europe had been brought up to some minimum level, and perhaps not until sealift began taking over the NATO supply requirement at around 11+25. Thus, the Soviets could secure a major advantage during the first month or two of an Iranian crisis if they were willing to run the additional larne risks of a full-scale mobilization in Europe.

About 60 4,000 ion, 24 knot ships to deliver 5,000 ions per de : This assumption is overly conservative since C-5s and C-141s will be able to continue flying at a reduced rate.

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The curve shows the effect on NAIO of an equal allocation of airlift between the two theaters. The tonnage delivered to NATO would simply be reduced proportionately, i.e., 50%. (It should also be remembered that in this case deliveries to Iran would also take roughly twice as iong until scalift began to arrive in large quantities around the middle of the second month.) It is worth noting that the combat capability that could be delivered with this reduced tonnage would be increased substantially by the current program to preposition ground forces equipment in Europe.

(S) In the sequential delivery case, the curves show that there would be only a 20% reduction in our NATO delivery capability for the first 15 days--time and lift enough for movement of POMCUS units, though some Air Force and Army support would be delayed. For the next ten days or so, the impact would be much larger because of the assumed loss of C-5s and C-141s. Once sealift took over the bulk of deliveries, about NATO M425, the amount of the shortfall and its impact on NATO would become more uncertain. U.S. ships returning from Iran would be celayed in going to NATO. Some ships would continue sailing to Iran to deliver sustaining support. But to the extent that the war in Iran provided early warning of a European war, NATO ships should have a headtart, enabling them to meet the schedules programmed for the NATO-only cest. Moreover, because the total deliveries would then the so massive, the shortfall would probably represent only marginal capabilities.

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L. US-IRAN AND SOVIET RESUPPLY CAPABILITY In theory, the existing infrastructure in northern and Southern Iran could permit both the United States and Soviet Union to resupply major forces in Iran. In practice, however, particularly because of the creat distances and the difficult terrain involved, the roads and railroads in Iran are likely to be able to carry much less than their nominal capacity, in which case both sides could experience difficulties in resupply. In addition, since the LOCS would be operating close to their meximum capacity, air attacks could seriously impede the steady flow of war material to both sides. Total U.S. resupply requirements of armunition, food, etc., for a 3-division comps and 4 fighter wings would be at least 5,000 tons per day. These supplies would have to be landed at Iranian air or sea ports and moved by road or rail to the battle area. If POL supplies were not locally available, these needs would increase. (S) Iranian support would be uncertain. From the ports to Tehran, the railroad may be capable of carrying about 6,000 tons per day; the roads 20,000 tons per day. If the roads and rail lines were not cut and if sufficient luanian trucks were available. 1/ Iran should be able to assist substantially in supporting U.S. forces. There is a POL pipeline system that runs from the refinery at Abadan to Tehran and other Iranian cities, but its capacity is unknown. Iranian POL truck At least two air tases and two sea ports would be necessary to capacity is also unknown. support strategic mobility operations -- a potentially important constraint. Although the berths at Eandar Abbas and Bushehr would probably be sufficient for arriving ships, enemy opposition or inefficient unloading and port clearing operations could delay the unloading and delivery of sealifted forces and supplies. Bushehr. less than 200 miles from lraq, would be particularly vulnerable to air A typical U.S. corps support package is capable of carrying about 6-7,000 tons per lift--about twice the 3,200-ton daily supply attack. requirement for a 9(,000-man corps. Actual delivery capability would be determined by the distance between debarkation and user units. For example, if support units operated 20 hours per day, traveled at an average speed of 60 KPH and maintained a 75% availability rate, the corps could support itself over a distance of about 300 kilometers, according to Army planning factors. If U.S. forces fought in the northern mountains or near Tehrar (over 300 km from the seaports), additional Iran has built a large but uncertain number of 10-15 ton Mercedes Benz trucks. APR 23 2003 1911 - 1914 Anna - 1914 Li est tra Vita (n: 14-33

transportation assets would be necessary. The U.S. A r Force generally plans on supporting itself with strategic and tactica. airlift. However, high- intensity tactical air operations would place large demands on airlift (it takes roughly one C-130 sortie to support one A-10 sortie). The air force, and possibly Marine units, would have .0 depend to some Army support forces should be able to supply Army POL needs Over at least a 300-km LOC, but they would need additional truck or pipeline support for greater distances. Jactical air forces would place a heavy demand on airport and pipeline facilities, poisibly more than could be met. Supplying water might become a problem since the anticipated gemand is much larger in Iran than in Europe, and the supply Although Iran maintained stockpiles of municions and spare Darts, the country's sustaining capability is unknown Iran apparently planned on fighting along for only 2-; weeks until the United States came to its assistance. Should Iranian forces also need U.S. logistic support, the resupply question would be further Under the Shah. Complicated. The diverse national origins of Iran's "Quipment, including a large portion from the Soviet Union, and Jron's underdeveloped Support structure would make any U.S. resupply effort particularly

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THIRD COUNTRY CONTRIBUTIONS (U)

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An African provert, "When elephants fight, the grass treatles," expresses the third country view of a crisis or war involving the superpowers in Iran. But while most countries would undoubtedly prefer to 154 avoid the enormous dangers of involvement, a Soviet conquest of Iran would be a major disaster for most of the countries in the region. The potential for these countries to contribute to a war must weigh heavily in any Soviet assessment of risks, including the risk of uncontrollable escalation. Indeed, because third country contributions could expand the range of threats that we could successfully deter, it would bea mistake to ignore those U.S. actions and capabilities that might imfluence the responses of third countries.

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The militarily strongest countries in the region--lurkey, Isreel and Egypt, in addition to Iran -- which are all friendly to the United States, would feel directly threatened by the extension of Soviet -15 } ----military power to the Fersian Gulf. Even the current regimes in Syria and Iraq, despite their many pro-Soviet tendencies, would fear too cicse an embrace by their Soviet benefactor, no matter what short-term tenefits they might hope to derive from a Soviet defeat of Iran. Indeed, for most countries, the magnitude of this crisis and the potential implications of a Soviet victory are likely to overwhelm most of their usual preoccupations and perceived interests.

However, while fear of a Soviet victory might influence the benavior even of Iraq, fear of involvement in a war of this magnitude would also influence the behavior of even the most pro-Western countries. .4.5 }---No third country would want to oppose the Soviet Union in a hopeless Indeed, if the Scviets appeared likely to succeed, pro-Soviet tendencies would be likely to emerge in many countries. However, if persuaded that there was some chance of successful opposition, third countries might take a range of actions that would increase the chances of success. Here a distinction must be made betwen contributions in a crisis or pre-war situation and contributions in a war. Least cancerous for them would be to grant intermediate basing and overflight privileges to the United States or other friendly forces during a crisis. More risky would be closing their airspace or waterways to Soviet passage before or during a war, since such denial implicitly threatens the direct use of force against a superpower. Most dangerous would be the contribution of ground or air combat forces to the defense of Iran or Saudi Arabia, more likely against other third countries allies of the Soviet Union, but conceivably even against Soviet forces. Fighting Soviet forces directly would be the most difficult step for any third country to take.

No third country contribution, even the provision of bases and overflight rights, can be counted on in the way that U.S. forces and 1.51 U.S.-controlled facilities can be. But the rance of threats that we might deter or counter would be much wider if we could supplement our own resources with those of other countries. Without at least the bases and overflight rights for a Mediterranean air LOC, the scenarics that

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we could handle are few. But even the potential contribution of combat

The United States could influence the actions of third countries in a number of ways: assurance against the threat of Soviet reprisals, particularly nuclear ones; assurances against local security threats, such as threats to Israel from Arab countries or threats to Egypt from Israel or Libya; and perhaps also assurances to Iran and Saudi Arabia that the assistance they might accept from Egypt, Israel, or Turkey would indeed be temporary. Finally, the U.S. could and probably would have to provide more specific assistance such as logistics

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The most important countries and their possible contributions protect its interests in Africa and would probably be prepared to commit forces in the Persian Gulf. Portions of the 30,000 French airborne, infantry, and Foreign Legion troops could be deployed to Iran in a matter of days. These forces are very light, but they are well-trained and could be effective in defending key passes or other strategic points. In addition, the French maintain a significant naval capability in the Indian Ocean that could be employed to protect Western interests. Finally, the French could supply air- and sea-lift assets for moving other third country forces.

naval forces for the defense and advisors and maintenance personnel for the Iranian army. In addition, the UK could be helpful in moving other

be contributed.

Australia has three mechanized brigades that might

Turkey could provide perhaps the most substantial support to Iran, but it would also run the greatest direct risk of Soviet reprisals in doing so. It could also provide intermediate staging and tanker bases for U.S. airlift, and overflight routes into Northern Iran. Turkey could also close the Straits to Soviet sealift and naval forces, although to do so would be an act of war under international law. It could deny the Soviets their best air LOC to Iraq, although Turkey's actual ability to defend its own air space is unclear. Turkey could also supply important support for U.S. forces securing LOCs in the Eastern Mediterranean. 181

provide air bases that could be important in tactical air operations in At a higher level of involvement, Turkey could Northern Iran. Turkey could provide tough and capable, although poorlyequipped, combat forces. Turkish forces mobilizing on the Iraqi border or attacking Iraq could deter Iraqi participation in the war. Turkish

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SEBREI forces might even be used directly against the Soviets, either by moving into Iran or perhaps even by posing a threat to the Soviet Union. Pakistan, concerned about Soviet southern expansion, has a substantial army and air force as well as a road and rall link with Iran. Pakistan's pilots are among the best in the region, although their air force is poorly equipped. Within the first few weeks of a war, Pakistan could deploy at least 2-3 divisions (out of a total of 16) to Iran. Egypt could provide air bases to support the transit of U.S. aircraft and could close the Suez to Soviet shipping. Igypt might also commit sizeable forces to Saudi Arabia (with Saudi concurrence and at Saudi invitation) to deter Iraq from committing forces against Iran or from exploiting the moment to attack Kuwait or Saudi Arabia. Egypt would be less likely to commit forces against the Soviets directly. Egyptian forces would face significant problems in moving long distances and in logistics support of their largely Soviet-supplied equipment. However, with mobility, logistics support, and more Western equipment, Egypt might ultimately be able to provide 2 reinforced divisions, with 400 tanks, 200 artillery, and 75 supporting aircraft (out of a total force of 10 divisions, 2,200 tanks, 1,855 artillery and 361 aircraft). Egyptian actions would depend heavily on what Israel and Libys were doing. U.S. assurances could be important in this respect. Israel could provide air bases for support of U.S. airlift operations. In a more active role, Israeli forces might conceivably threaten Soviet LOCs in the Mediterranean. More plausibly, Israeli air forces could threaten Iraqi air forces and key targets in Iraq. If the United States could secure Jordanian and Saudi cooperation, Israeli ground forces might be used against lraq. Israel would be cautious, however, about risking a large fraction of its army far from its own borders.

able to support U.S. tactical and mobility operations, as well as a large portion of the needed fuel. The Saudi Air Force might provide limited assistance in the defense of Persian Gulf installations (e.g., SAM defense).

<u>Jordan</u> could provide air bases to support the U.S. airlift, and, if circumstances allowed, might provide limited but welltrained forces--5 brigades, 245 tanks, roughly a third of Jordan's army--to deter Iraqi moves.

Iran war. If Iraq aligns itself with the Soviets, Iranian forces available to defend against the Soviet attack will be reduced. These additional demands could tilt the balance against Iran, particularly if Iraq attacks in the south and seizes the oil-producing areas, key ports in the northern Persian Gulf, or the major road and rail LOC from the Persian Gulf to the North (one of only two)

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leading to war and of the war itself, the defense against a Soviet attack becomes somewhat less difficult. An Iraqi decision to stay out of the war could be based on an unwillingness to see Soviet power in the area increase; on a belief that the Soviets were unlikely to win; or on an Iraqi recognition that pressure and military action from Iraq's neighbors and Iran's allies would make the costs and risks of an Iraqi

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Union in an Arab-Israell context, would be uncomfortable with an expansion of Soviet and Iraqi power and influence in the area. Syria is more likely to oppose than to support a Soviet-Iraqi move against Iran. Nevertheless, should the Soviets offer sufficient inducements or pressures, or should a more pro-Soviet regime come to power, the Syrians might allow sealifted Soviet forces to move through Syria to Iraq.

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