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MEMORANDUM FOR AMBASSADOR REGINALD BARTHOLOMEW
LTG JOHN SHALIKASVILI
AMBASSADOR READ HANMER
DR. VICTOR ALESSI
MR. DOUGLAS MACEACHIN
BG JOHN GORDON

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Date: MAR 22 2016

SUBJECT: Implementation of Initiative on Safety and Security (U)

(C) Attached for Steering Group review and approval is the subject DOD-DOE paper, including revisions agreed at the 7 November meeting of the President's Nuclear Initiatives (PNI) Working Group. Annex I is a DOD-DOE proposed program of work discussed at the Working Group meeting. Annex II has been prepared by DCI.

Stephen J. Madley
Stephen J. Madley

Attachments
a/s

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IMPLEMENTATION OF INITIATIVE ON SAFETY AND SECURITY

I. PURPOSE

(S) On September 27, 1991, President Bush proposed beginning "discussions with the Soviet Union to explore cooperation" in three areas, one of which is "existing arrangements for the physical security and safety of nuclear weapons, and how these might be enhanced." On October 5, in his response to the President's initiative, Gorbachev stated Soviet "readiness to enter into a detailed dialogue with the United States on the development of a secure and ecologically sound technology for the storing and transportation of nuclear warheads, the means of using nuclear weapons and the raising of nuclear security." In response to NSC tasking, this paper outlines topics that might be included in the "physical security and safety" area and how the U.S. should organize efforts to pursue bilateral discussions in this area.

II. BACKGROUND

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(S) A serious incident involving the loss, theft, or accidental detonation of a Soviet nuclear weapon would have potentially dire human, political, and military consequences affecting U.S. interests. The Soviet armed forces and internal security services are believed to have in place substantial physical (and manpower intensive) security safeguards and procedures.

[REDACTED] In addition, given the rapid breakup of the USSR, it is unclear whether these safeguards and procedures will continue to be effective. While the Soviets have not shown an interest in the past in discussing weapon security and safety issues, the physical security of Soviet nuclear weapons in the current circumstances of nationalist unrest and flagging military morale apparently has been of concern at high levels of the Soviet political and military leadership, and is of increasingly urgent concern in the West.

(S) In the discussions on physical security and safety, the U.S. should pursue as its overall objective the improvement of the safety and security of Soviet nuclear weapons. Its near-term objective should be the reduction of the risks of a nuclear weapon-related accident or loss of control in the USSR involving their existing stockpile. The U.S. will not negotiate agreements or understandings that commit the sides to incorporate, in their respective physical security and safety regimes, any of the information exchanged. The discussions, however, could involve providing non-sensitive information to facilitate Soviet ability (if the Soviets in fact identify deficiencies and are willing to address them) to safely transport and store their nuclear weapons, either as part of their response to the President's initiatives or their efforts to maintain centralized control over those weapons; the latter may include eventual removal of those weapons to the Russian Republic.

(S) As its longer-term objective, the discussions might explore possibilities of providing non-sensitive information that could be used by the Soviets to improve the physical

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security and safety of their future stockpile. An additional U.S. objective would be to gain potentially valuable insights regarding Soviet techniques and/or procedures in the area of nuclear weapon safety and security, including those that potentially could enhance U.S. nuclear surety. Care would be needed in the discussions to ensure that it is not unfairly perceived as an effort to exploit either side's possible shortcomings.

(S) An essential precondition for effective implementation of the initiative is that any discussions must not provide to the Soviets -- or through them, to any other state or subnational group -- information on, or access to, sensitive data, technologies, or procedures that could improve their military capabilities, readiness posture, or ability to defeat U.S. nuclear weapon safety and security measures. To ensure full protection of such data, technologies, and procedures, each topic selected for possible discussion with the Soviets must be unclassified or declassified and subjected to thorough "red teaming" before tabling with the Soviets.

(S) In addition, it should be recognized that the proposed discussions may not have a near-term impact in improvements to the physical security and safety of Soviet nuclear weapons, since incorporating certain of the concepts and/or technologies mentioned below likely would be a complex, time consuming and, in some cases, expensive effort. The longer term impact, however, could be very significant, depending on the information flowing from the discussions and eventual decisions by Soviet central authorities (or possibly, by independent republics) to incorporate such information into their security and safety approach.

III. TOPICS FOR DISCUSSION

(S) An initial survey has identified the following illustrative list of topics on physical security and safety of nuclear weapons that, pending the results of "red teaming," may be suitable for discussion with the Soviets.

A. Nuclear Weapons Management

In beginning discussions on the physical security and safety of nuclear weapons, it would be useful to describe the long-established and carefully integrated structure designed to assure proper oversight of the safe design of weapons and the procedures to ensure conformity with U.S. guidance on the physical security of nuclear weapons.

1. Roles and responsibilities of DOD, DOE, Nuclear Weapons Council, and Soviet counterparts.
2. Key surety groups (e.g., Nuclear Explosive Safety Study Group and Nuclear Weapon Safety Study Group), and Soviet counterparts.
3. Primary U.S. and USSR guidance on nuclear weapon physical security and safety.

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B. Physical Security

1. Prevention of unauthorized access to nuclear weapons at fixed sites.

- Personnel Reliability Program;
- stockpile inventory management;
- Weapon Access Delay System (in conceptual terms);
- other weapon security and storage systems.

2. Prevention of unauthorized access to nuclear weapons in transit. (Note: Although transportation is included in the initiative on weapon dismantlement and destruction, it may be more appropriate to address it in the physical security and safety context.)

- General transport and handling policies and criteria; and
- Methods of transportation, and associated requirements.

C. Nuclear Weapon Safety

1. Safety risk assessment methodologies.

- standards and scenarios.

2. Prevention of accidental detonation or plutonium dispersal should an accident occur.

- insensitive high explosives;
- fire-resistant (plutonium) pits;
- enhanced nuclear detonation safety; and
- safety procedures for handling assembled weapons and test devices;

3. Storage safety.

- storage concepts;
- limits on hazardous materials; and

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-- regulations and criteria for storage sites.

4. Response to nuclear incidents/accidents.

-- emergency search for lost or stolen weapons, or terrorist devices (procedures, not technical capabilities);

-- nuclear accident/incident agreements; and

-- dearming/recovery (render safe) groups.

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(S) One option would be to expand the "safety" category to include discussions on environmentally-safe nuclear testing, i.e., test containment. This would be a useful area for discussion and cooperation because, while Soviet containment problems do not directly threaten U.S. national security interests, they remain a sensitive issue for several U.S. allies and friends [REDACTED] and could pose health risks to U.S. teams carrying out on-site measurements necessary for effective verification of the TTBT. Soviet containment failures also could lend themselves to exploitation by governments and/or private groups opposed to nuclear testing anywhere, regardless of the containment record of other states that conduct nuclear testing. Finally, Soviet venting has constituted a routine violation of the LTBT. On the other hand, such discussions may be viewed by some as an inadequate response to the declared USSR moratorium on testing. If a decision were made to pursue this option, an additional topic for discussion could be:

D. Containment of Nuclear Explosions (horizontal and vertical emplacement)

-- review of successful and unsuccessful containment;

-- survey, siting, standards, procedural checks, and closure mechanisms; and

-- geological considerations.

IV. ORGANIZING U.S. EFFORTS

(S) For the U.S., the management, technical, and operational expertise required to address all of the above-noted topics resides in DOD and DOE. Following approval of the overall concept for implementing this initiative, DOD and DOE would work together to: refine the list of issues for possible discussion; recommend their prioritization; develop draft presentations for the Soviets; and "red team" those presentations to ensure full protection of U.S. sensitive data, technologies, and procedures.

(S) To preserve the exploratory, technical, and non-negotiating thrust of the President's initiatives, to avoid creating expectations of major breakthroughs or agreements, and to provide added protection against any Soviet efforts to obtain sensitive information, the

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following approach should be adopted:

- at the next Bartholomew-Obukhov meeting, the U.S. would propose a small working group meeting on physical safety and security issues for about a week in mid December, and suggest 1-2 "icebreaker" topics;
- at the Bartholomew-Obukhov meeting and/or through a separate channel, the U.S. would encourage the Soviets to send appropriate technical experts in nuclear surety matters (see attached annex provided by DCD);
- the U.S. side would be headed by an appropriate policy community official and deputy to provide oversight and continuity to the working group's discussions, and to encourage greater civilian involvement (possibly including representatives of the republics) on the Soviet side. The U.S. side would include a small number (e.g., 3-5) of DOD and DOE experts and, as appropriate, no more than one representative from other policy agencies;
- U.S. presentations and follow-on discussions would not go beyond those materials cleared in advance by DOD and DOE; Soviet requests for further information would simply be "taken" for consideration by the U.S. at a later date (i.e., a "backstopping" mechanism would not be appropriate or necessary while bilateral meetings are in progress); and
- based on each meeting, each side could propose further discussions on these or other topics through the Bartholomew-Obukhov channel.

~~(S)~~ As a rule, every effort should be made to: keep the size of the U.S. team small and largely technical in composition, bringing only those experts necessary for discussion of the pre-agreed topic(s); limit the bilateral meetings to one or two weeks, spaced apart sufficiently to permit internal reviews of results and effective preparation for any follow on; and limit topics for discussion to one or two issues per meeting. As required and appropriate, the working group might visit facilities in the U.S. and USSR of relevance to their discussions.

~~(C)~~ As a venue for such meetings, options include Washington, Geneva and Moscow. Geneva may have the disadvantage of its association with traditional arms control negotiations. Holding meetings in Moscow would be difficult from the point of view of administrative support for the U.S. side.

V: OTHER CONSIDERATIONS

~~(S)~~ In implementing the President's initiative in this area, the U.S. might consider characterizing safety and security discussions at the outset as the Administration's response to its "next steps" commitment on nuclear testing. Alternatively, the U.S. may decide not to

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make that connection explicit, preferring instead to answer any questions about "next steps" on nuclear testing by noting that the President's initiative is a response to very real and time urgent concerns about nuclear weapon-related issues and, in that context, could be viewed as an appropriate "next step" on nuclear testing. In support of either approach, it could be noted that the Administration study of "next steps" in nuclear testing undertaken before the attempted Soviet coup and the President's initiative appeared to be evolving toward discussion of "cooperative measures" regarding nuclear weapon security, safety and test containment in lieu of negotiation of further testing limits. As a third alternative, the U.S. may wish to explicitly delink the President's initiative and "next steps" on nuclear testing.

(S) The U.S., of course, cannot prevent the Soviets from seeking to use the working group to press their agenda for further testing limits. On the other hand, if the Administration makes an explicit decision that further limits on nuclear testing are not appropriate, the U.S. would be in a strong position to respond that, in addition to its refusal on national security grounds to negotiate further testing limits, the issue of possible further limits clearly is not as urgent as addressing the physical security and safety agenda.

(S) OSD circulated on 29 October a separate paper, "Next Steps" and the President's Nuclear Initiatives, for Steering Group consideration of this issue.

(S) Finally, to further understanding of, and support for, the U.S. approach toward implementing this initiative, prior consultation with key members of Congress and allies (especially the U.K. and France) would be essential.

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Annex I

Program of Work: Safety and Security Initiative

Week beginning:

12 November

DOD-DOE meet to establish TOR and drafting responsibilities for U.S. presentation at mid-December U.S.-Soviet Experts Working Group (EWG) on safety and security

-- presentation (possibly along the lines of an overview of U.S. methodology regarding safety and security in transportation and storage of nuclear weapons) would be designed as "icebreaker."

-- intention would be to elicit Soviet discussion of their approach and, if they are prepared to identify problem areas, where they might be interested in possible U.S. technical assistance.

25 November

DOD-DOE review/"red teaming" of draft presentation and list of questions to pose to Soviets on their practices

late November
(TBD)

At Bartholomew-Obukhov meeting, U.S. would:

-- formally agree to establishment of EWG (if required).

-- propose mid-December experts meeting (one week) in Washington.

-- identify head of U.S. EWG* and provide general description of U.S. team (e.g., senior experts on weapon safety and security in transportation and storage).

-- describe proposed agenda (see above), and urge Soviets to send appropriate experts.

-- suggest Soviets give thought, in advance, to specific areas where they might be seeking U.S. technical assistance.

early December
(TBD)

U.S. experts preview presentation to Steering Group.

mid December
(TBD)

U.S.-Soviet EWG meeting takes place.

* U.S. will need to resolve this issue in the near future.

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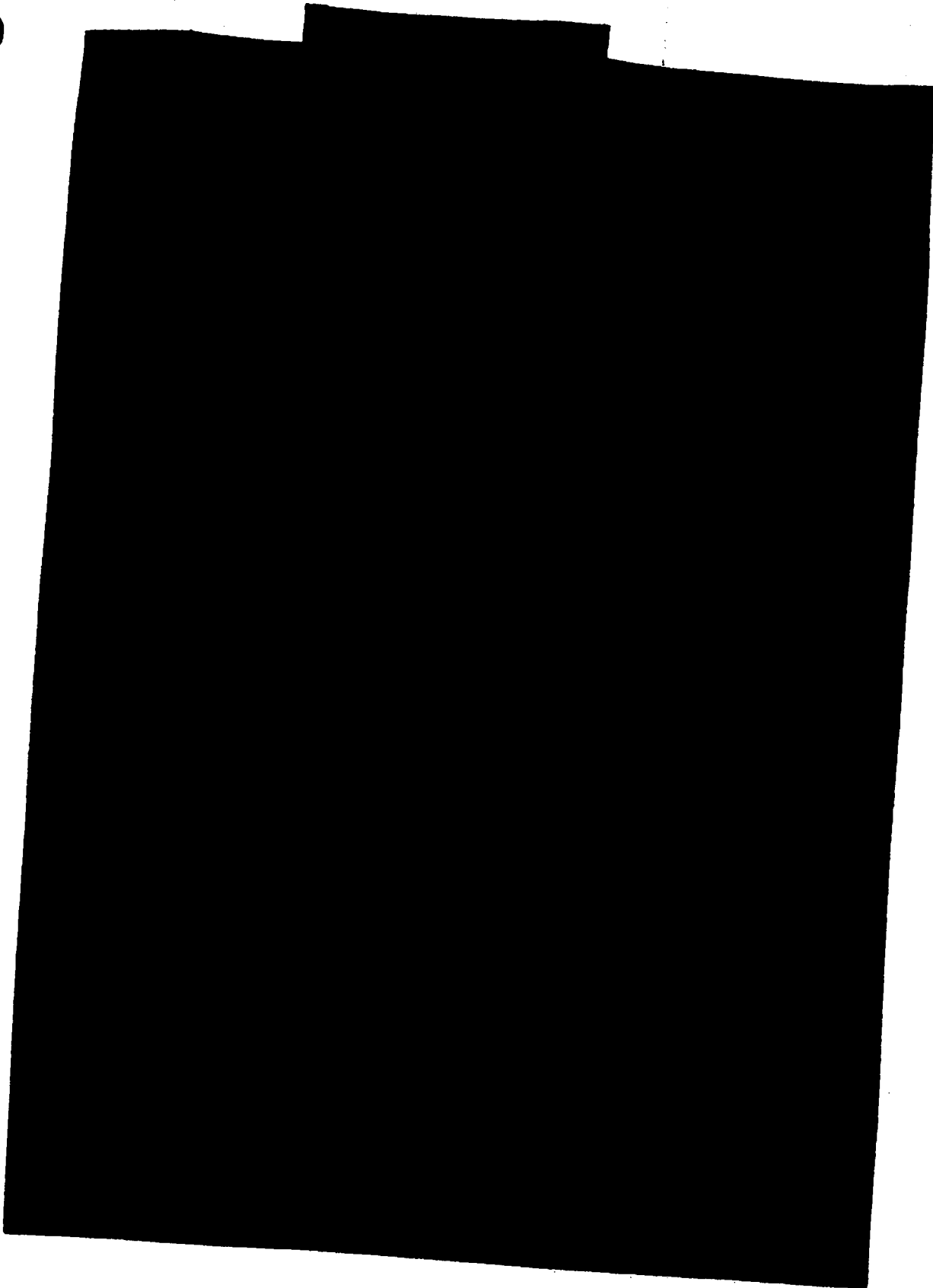
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ANNEX II



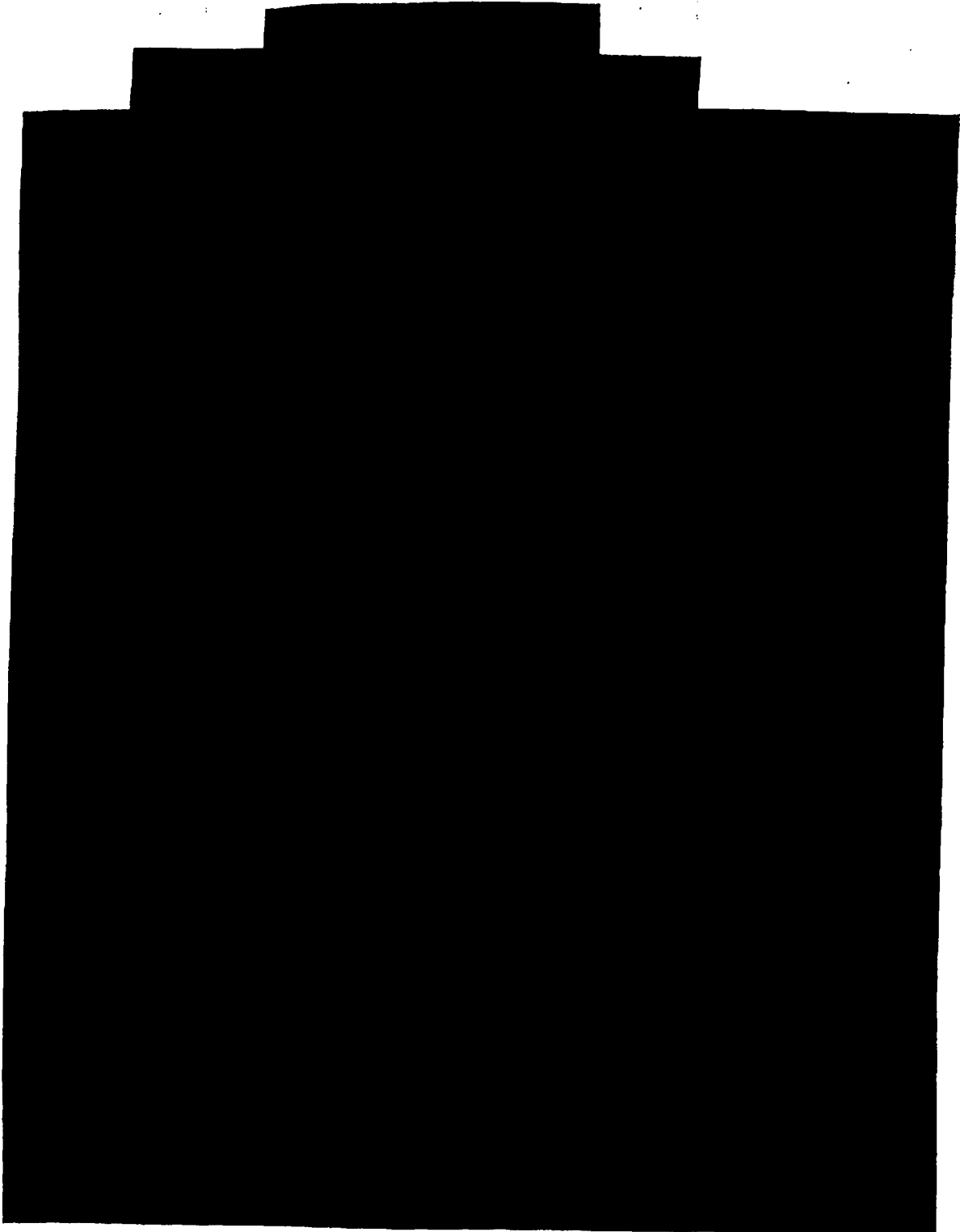
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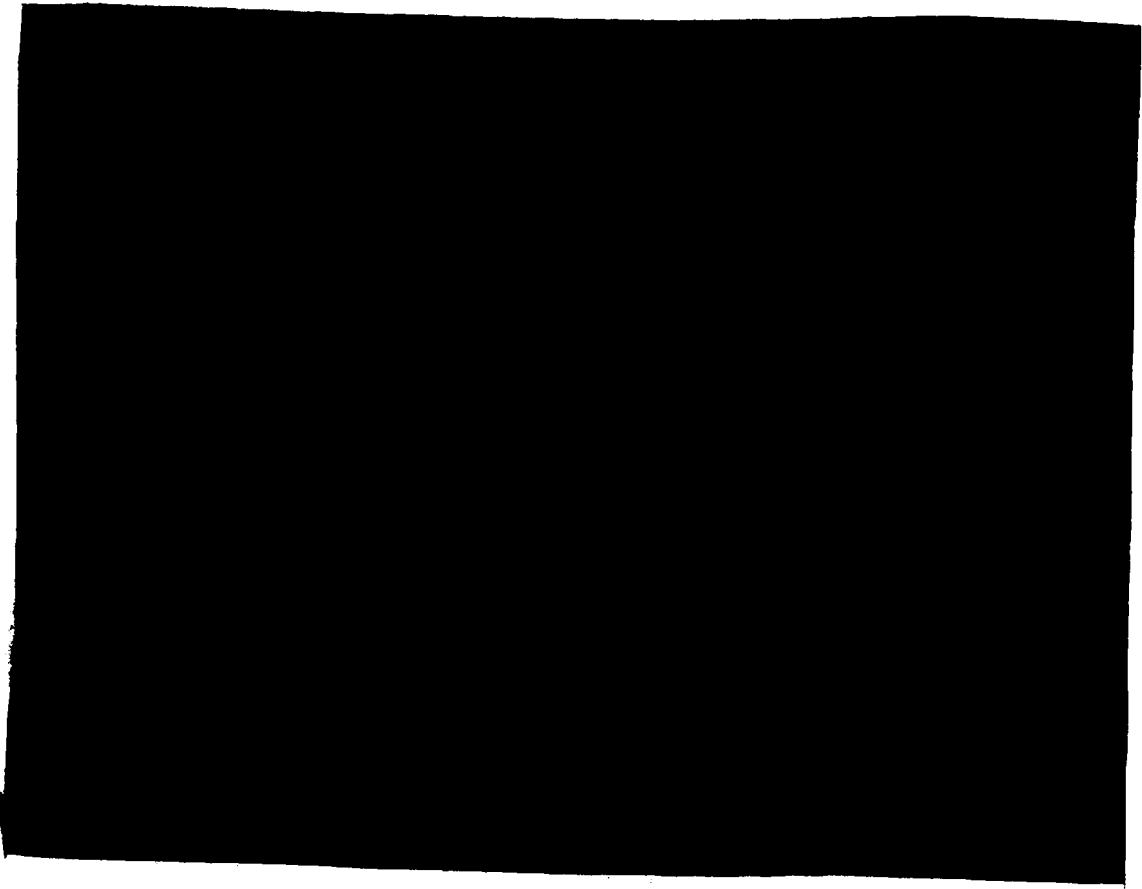
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