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**MEMORANDUM FOR MARK SCHNEIDER**

**SUBJECT: IMPLEMENTATION PAPER**

OSD  
5 U.S.C § 552 (b)(6)

**(S) Per your suggestions, I have revised my draft. Please note:**

- ref to Gorby's response has been moved up to page 1;
- deleted ref to "one point safety" in para. II. b;
- added ref to LTBT on page 3;
- added sentence on DOE and DNA responsibilities on page 4; and
- added DOD-DOE option on page 4.

**Paper should be ready for Doug to review upon his return.**

Leo Michel

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Date:

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**IMPLEMENTATION OF INITIATIVE ON SAFETY AND SECURITY**

**I. PURPOSE**

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(C) The President has 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." To support implementation of the initiative, this paper outlines:

- topics that might be included in the "physical security and safety" area; and
- options for organizing U.S. efforts to pursue bilateral discussions in this area, either in a separate forum or in conjunction with discussions in part or all of the other areas proposed by the President -- "joint technical cooperation on the safe and environmentally responsible storage, transportation, dismantling, and destruction of nuclear weapons," and discussions on "nuclear command and control arrangements, and how these might be improved to provide more protection against the unauthorized or accidental use of nuclear weapons."

(C) On October 5 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." Gorbachev did not, however, refer specifically to the U.S. proposal to discuss weapon dismantlement and destruction, and it is unclear if the phrase "raising of nuclear security" encompasses the U.S. proposal to discuss weapon "safety." Gorbachev also did not suggest when, or in what forum, the dialogue should begin.

**II. BACKGROUND**

(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, but U.S. knowledge of Soviet practices and technology in several areas (especially weapon safety devices) is sketchy, at best. 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 have been of concern at high levels of the Soviet political and military leadership.

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Prep. by: Leo Michel [REDACTED]

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5 U.S.C § 552 (b)(6)

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(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 potential adversary state or subnational group -- information on, or access to, sensitive data, technologies, or procedures that could improve their military capabilities 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 based on unclassified or declassified sources 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.

## II. TOPICS FOR DISCUSSION

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

### A. Physical Security

#### 1. Prevention of unauthorized access to nuclear weapons (fixed sites.)

- Personnel Reliability Program;
- stockpile inventory procedures;
- Weapon Access Detection System;
- other weapon security and storage systems.

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### B. Nuclear Weapon Safety

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

- insensitive high explosives;
- fire-resistant (plutonium) pits;

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- enhanced nuclear detonation safety; and
- safety procedures for handling assembled weapons and test devices;

2. Response to nuclear incidents/accidents.

- emergency search for lost or stolen weapons, or terrorist devices.
- nuclear accident/incident agreements; and
- dearming/recovery (render safe) groups.

(S) One option would be to expand the "safety" category to include discussions on environmentally-safe nuclear testing, i.e., 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 (in particular, the Nordic states), 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. Thus, an additional topic for discussion would be:

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

- review of successful and unsuccessful containment;
- survey, siting, and procedural checks; and
- closure mechanisms.

(S) Finally, it should be noted that physical security and safety considerations are also relevant in the first area of cooperation cited by the President, i.e., "joint technical cooperation on the safe and environmentally responsible storage, transportation, dismantling, and destruction of nuclear warheads."

IV. OPTIONS FOR ORGANIZING U.S. EFFORTS

(S) There exist four basic options for approaching bilateral discussions in the area of physical security and safety:

- a military-to-military dialogue;
- a DOD-MOD dialogue;

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- a DOD/DOE-MOD/Ministry of Atomic Power and Industry (MAPI) dialogue; or
- a government-to-government (i.e., interagency team) dialogue.

(S) A military-to-military dialogue may be relatively easy to set up quickly, assuming the Soviet military does not perceive the initiative as an attempt to exploit its real or perceived shortcomings. Given the Soviet military's pervasive control over nuclear weapons, if there are problems requiring urgent action to ensure their physical security and safety, dealing directly with the military may be the most expeditious means of identifying and addressing such problems. On the other hand, the U.S. military cannot provide the technical expertise to deal with the full range of topics outlined in III. A, B, and C above. For example, the research, development, and testing of nuclear weapons is managed by DOE, and DNA conducts nuclear weapon effects tests utilizing nuclear devices fielded by DOE and manages the stockpile inventory.

(S) A DOD-MOD dialogue also may be relatively easy to set up quickly, and (like the military-to-military channel) may be an expeditious means of identifying and addressing any problems requiring urgent action. This approach would have the additional advantage of broadening the range of topics that could be discussed with the Soviets. Moreover, it would highlight U.S. civilian authority in defense matters, perhaps lending force to U.S. encouragement of greater civilian control over the Soviet military. On the other hand, the current MOD is led and dominated by the military, and a U.S. proposal to conduct the dialogue in DOD-MOD channels could be perceived as U.S. willingness to "exclude" civilian and/or republic representatives from issues of vital concern to them. Finally, DOD cannot provide the technical expertise to deal with the full range of topics outlined in III.A, B, and C above; other technical agencies (e.g., DOE) might then cite a DOD-MOD channel as a precedent for establishing a direct dialogue with their Soviet counterpart on nuclear weapon-related issues.

(S) A DOD/DOE-MOD/MAPI dialogue would allow the U.S. side to address the full range of topics outlined in III.A, B, and C, and draw in some Soviet civilian involvement -- albeit only from the military-industrial complex. The composition of the U.S. team could fluctuate, depending on the specific technical expertise needed, although some delegation continuity would be advisable. As required and appropriate, the delegations (or working groups thereof) could visit facilities in the United States and USSR of relevance to their discussions. On the other hand, such an approach might be used by the Soviets to exclude or restrict broader Soviet civilian (and republics') representation. It also would raise questions regarding interagency oversight (or lack thereof) over DOD/DOE international activities.

(S) A government-to-government dialogue (i.e., interagency team) would allow the U.S. to address the full range of topics outlined in III.A, B, and C above and encourage greater civilian involvement (possibly including from the republics) on the Soviet side. The composition of the U.S. team also could fluctuate, depending on the specific technical

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expertise needed, although some delegation continuity would be advisable. As required and appropriate, the delegations (or working groups thereof) could visit facilities in the United States and USSR of relevance to their discussions. The interagency composition of the team might facilitate reaching formal agreements on one or more specific cooperative measures deemed advantageous as a result of the proposed discussions, although no overall security or safety measures agreement would be necessary.

(S) A benefit of this approach would be its ability to pursue implementation of the President's initiatives in a context that could credibly be related to nuclear testing "next steps" without focusing on the negotiation of further testing limits. The U.S., of course, could not prevent the Soviets from using such a forum (which would have a more "political" cast than the preceding options) to press their agenda for further testing limits; indeed, if leadership of the Soviet team fell to the MFA, the U.S. might expect at least initial Soviet emphasis on negotiating further testing limits. On the other hand, 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, safety, and test containment agenda.

#### V. TIMING AND VENUE

(S) The U.S. must balance the political benefits (and possible security benefits, if the Soviets have problems requiring urgent action to ensure the physical security and safety of their nuclear weapons) of opening an early dialogue with the Soviets against the security requirements of effective "red teaming" before tabling ideas with the Soviets. In addition, to further understanding of, and support for, U.S. policy regarding the dialogue, prior consultation with key members of Congress and allies (especially the U.K. and France) would be highly desirable.

(S) It is difficult to estimate how long an effective "red teaming" effort would take for all of the areas covered under III. A, B, and C above, but initial surveys within DOD and DOE suggest that some subjects -- e.g., over packed containers, personnel reliability programs, stockpile inventory procedures, and containment of nuclear tests -- might be adequately "red teamed" and ripe for discussion in a couple months. Other subjects -- e.g., nuclear weapon safety -- could require longer to identify and work around potential security problems.

(S) To accommodate these concerns, and after a decision is made on the appropriate forum for the dialogue and composition of the U.S. team, the U.S. could propose an initial meeting for 7-10 days in early December. The meeting could be used to discuss the overall U.S. approach, identify some of the topics the U.S. would like to explore, and hear any Soviet ideas. This would give both sides additional needed time to begin more detailed discussions on specific topics, beginning in early 1992.

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(S) As a venue for such meetings, the U.S. should propose either Geneva or Washington, where facilities exist that could support the work of the U.S. teams and ensure appropriate security. Although the Soviets might prefer Moscow (principally for cost reasons), that would not be an acceptable location, except for very brief meetings, from the standpoint of administrative support for the U.S. side.

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