APPENDIX G

IMPLEMENTATION PLAN FOR THE DISMANTLEMENT STUDY GROUP

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Action Items:

1. The leading warhead radiation signature technologies should be tested on U.S. nuclear weapons currently undergoing dismantlement to determine whether they can be used in a START III dismantlement monitoring regime. Specifically, the Nuclear Weapons Identification System (NWIS), gamma-ray spectral measurements, gamma-neutron threshold measurements, multiplicity fingerprint measurements, and the Controlled Intrusiveness Verification Technology (CIVET) should be tested immediately on the B61 Mod 5 (a representative bomb) and W69 (a representative warhead) which are currently undergoing dismantlement at Pantex.

   Date Due: October 1, 1997
   Lead Agencies: NN-40/20
   DOE/AL

   Comments: *DP and NN have drafted a memo requesting that such demonstrations take place as soon as possible. Such demonstrations must be performed so as not to interfere with ongoing operations at Pantex.*

2. A Working Group should be established to conduct an in-depth analysis of the use of a dedicated dismantlement facility, such as the Device Assembly Facility (DAF) at the Nevada Test Site. The analysis should include a review of the cost, schedule, and impact issues associated with performing START III dismantlement activities at the DAF. The cost analysis should include budget quality estimates that can be compared with the costs of using existing facilities at Pantex to support START III dismantlement activities. The DAF Working Group will include representatives from DP, NN, AL, NV, Pantex, LLNL, LANL, SNL, and will make recommendations to the DOE Warhead Dismantlement Transparency Task Force.

   Date Due: November 1, 1997
   Lead Agencies: NN/DP-13

   Comments: *DAF Working Group study should include detailed cost, schedule, and impact analysis. The security benefits of using DAF should also be documented.*

3. A more in-depth cost and impact analysis should be performed of the four warhead dismantlement monitoring options. A cost and impact analysis working group should also be established to facilitate the cost analysis with representatives from the Office of Defense Programs, the Albuquerque Operations Office (AL), and the Pantex Plant. The study group should be chaired by DOE/AL and will provide the results of their cost and impact analysis to the DOE Warhead Dismantlement Transparency Task Force.

   Date Due: November 1, 1997
   Lead Agency: DOE/AL

   Comments: *Study should be initiated immediately to provide a more thorough analysis of costs associated with implementing a monitoring regime at Pantex.*

4. A comprehensive glossary of definitions and terms relevant to warhead dismantlement should be developed. This should also include a comprehensive list of the applicable acronyms relevant to the dismantlement process.

   Date Due: November 1, 1997
   Lead Agencies: DP, NN

   Comments: *In order to ensure that the U.S. has a comphrensive list of agreed definitions, DOE should prepare the glossary as soon as possible.*

5. A ***quantitative*** analysis should be performed, to the maximum extent, to determine the level of confidence and inadvertent loss of classified information for each of the options considered in the report. NN, DP, LLNL, SNL, LANL, Pantex, and Y-12 will participate in this quantitative analysis.

   Date Due: December 1, 1997
   Lead Agency: NN

   Comments: *Study should be initiated immediately to provide a more thorough quantitative analysis of these two criteria.*

6. An Irreversibility Working Group should be established to conduct an analysis of various irreversibility options similar to that conducted for the various transparency and verification options. The Irreversibility Working Group will evaluate options consistent with the Helsinki Summit requirement that transparency measures should promote the "...irreversibility of deep reductions including the prevention of a rapid increase in the number of warheads." The Irreversibility Working Group should make recommendations on whether irreversibility requires that material from dismantled nuclear warheads be stored in forms other than components. The Irreversibility Working Group will include representatives from NN, MD, DP, LLNL, LANL, SNL, Pantex, and Y-12 and will make recommendations to the DOE Warhead Dismantlement Transparency Task Force.

   Date Due: December 1, 1997
   Lead Agencies: MD, NN, DP

   Comments: *The Irreversibility Working Group should consider the ongoing Trilateral Initiative as part of its analysis. The Irreversibility Working Group will issue a report by December 1, 1997.*

7. An in-depth analysis of the impact of a warhead dismantlement monitoring regime on the DOE Oak Ridge Y-12 Plant should be conducted. In the eventuality that a reciprocal warhead dismantlement monitoring regime may require that CSAs be monitored, DOE should be prepared to address the security, costs, and impact issues associated with monitoring the disassembly of CSAs at Y-12.

   Date Due: December 1, 1997
   Lead Agencies: ORO, Y-12

   Comments: *Y-12 issues were generally discussed in the Dismantlement Report. However, an in-depth analysis should be conducted to fully address Y-12 issues.*

8. An in-depth analysis should conducted to evaluate the security and vulnerability issues associated with performing any radiation measurements on nuclear warheads and/or components for both classified and unclassified measurements. Particular attention should be focused on evaluating security and vulnerability issues associated with performing classified measurements on those warhead types that could conceivably be dismantled under START III and still remain as part of the active enduring stockpile (e.g., the W76). The Security and Vulnerability Working Group will include representatives from DP, NN, AL, Pantex, LANL, LLNL, PNNL, and SNL and make recommendations to the DOE Warhead Dismantlement Transparency Task Force.

   Date Due: January 1, 1998
   Lead Agencies: NN
   DOE/AL

   Comments: *Study should be initiated immediately to provide a more thorough analysis of security and vulnerability issues associated with START III dismantlements.*

9. A Working Group should be established to conduct an independent assessment of the issues associated with tracking non-nuclear components. This analysis should include: a cost-benefit analysis of the monitoring of non-nuclear components, a determination of the classification issues associated with allowing Russians to track the disposition of non-nuclear components, red-teaming requirements needed to implement monitoring of non-nuclear components, and issues associated with the potential reuse of some non-nuclear components. This Working Group will include representatives from NN, DP, AL, Pantex, Y-12, LANL, LLNL, and SNL.

   Date Due: January 1, 1998
   Lead Agencies: DP, NN

   Comments: *Because many non-nuclear components are classified and may be reused, an analysis of non-nuclear component monitoring should be undertaken.*

10. An analysis should be performed of the feasibility of incorporating measures to protect classified information as part of the Seamless Safety for the 21st Century (SS-21) process. As currently designed, the SS-21 process has no provisions for protecting the classified information as part of the dismantlement process. This Working Group will include representatives from NN, DP, AL, Pantex, LANL, LLNL, and SNL.

    Date Due: January 1, 1998
    Lead Agencies: DP, AL, Pantex

    Comments: *Although it may be possible, in principle, to incorporate such measures as part of the SS-21 process, a thorough review of the needed measures, and their impact on the safety of the dismantlement process, will determine the feasibility of incorporating those measures into the SS-21 process.*

11. Following completion of a more in-depth cost and impact analysis of the four warhead dismantlement monitoring options and the DAF, DOE should reach consensus on its preferred and recommended option. If the preferred option is to use Pantex, DOE should also make specific recommendations on which weapons and pit storage magazines in Zone 4 and which bays and cells in Zone 12 should be segregated and dedicated for use in a START III treaty. This recommended DOE option should be developed and agreed to by the DOE Warhead Dismantlement Transparency Task Force, the Dismantlement Study Group, and the DP Executive Management Team.

    Date Due: February 1, 1998
    Lead Agencies: DP/NN/AL

    Comments: *DOE should make a recommendation on its preferred option consistent with its other priorities of stockpile maintenance and dismantlement.*

12. A peer review group should be established to evaluate the operational issues of the techniques being conducted on representative systems currently undergoing dismantlement at Pantex. The peer review group will include representatives from DP, NN, PNNL, LANL, LLNL, SNL, Pantex, and Y-12 as well as experts in security issues. The peer review group will comparatively evaluate the data from each of the warhead radiation signature technologies and make specific recommendations on next steps to the DOE Dismantlement Transparency Task Force.

    Date Due: February 1, 1998
    Lead Agency: PNNL

    Comments: *NN-20 and NN-40, who are co-funding the demonstrations, will draft a memo establishing the Peer Review Group. Peer Review Group conclusions are due February 1, 1998.*

13. DOE should develop an integrated schedule that incorporates the requirement to conduct activities associated with maintaining a safe, secure, and reliable stockpile (e.g., SLTs and LEPs) but also incorporates new dismantlement requirements under START III in a manner that will minimize the impact to Pantex. The schedule will be developed by DP in conjunction with AL and the Executive Management Team.

Date Due: TBD
Lead Agency: DP

Comments: *Development of an integrated schedule will depend on a revised NWSM that specifies which weapons would be dismantled under START III.*

14. The Pantex Mission Statement will need to be modified in order to facilitate implementation of a START III treaty. In particular, current regulations and procedures that require all normal operations cease when foreign visitors are present will need to be changed to facilitate implementation of transparency measures under a START III regime. DP and AL, in conjunction with Pantex, will have the lead for this action.

Date Due: TBD
Lead Agencies: DP
DOE/AL

Comments: *This action should commence after a more in-depth review of existing regulations and procedures is conducted.*

15. Conduct an in-depth analysis of potential warhead dismantlement monitoring activities that could be implemented at Department of Defense facilities. Such a study should identify potential monitoring procedures that could be implemented at various stages of Department of Defense custody of the weapon, including:

- When the warhead is on the delivery vehicle and during the time of removal of the warhead from the delivery platform.
- The appropriate starting point for chain-of-custody procedures for gravity bombs and cruise missiles, which are typically stored or staged in a location separate from the delivery system.
- When the warhead is at a storage depot or other storage location where retired warheads are stored prior to being picked up a Safe Secure Trailers (SSTs) for transportation to the DOE dismantlement facility.

Date Due: TBD
Lead Agency: DoD

Comments: *The DoD monitoring options study should be conducted immediately to fully address potential transparency and verification options at DoD facilities.*

16. A study should be undertaken to identify and evaluate options for warhead dismantlement monitoring that could be implemented in the Russian nuclear weapons complex. Such a study should use as a basis the generic monitoring activities identified in the DOE study so that a comparative analysis of options could be performed.

Date Due: TBD
Lead Agency: DOE/NN-30

Comments: *Study should be led by DOE/NN-30 and involve other agencies, as required.*