



Department of Defense INSTRUCTION

NUMBER 5030.55

January 25, 2001

DDR&E

SUBJECT: DoD Procedures for Joint DoD-DOE Nuclear Weapons Life-Cycle Activities

- References:
- (a) DoD Instruction 5030.55, "Joint AEC-DoD Nuclear Weapons Development Procedures," January 21, 1974 (hereby canceled)
 - (b) [DoD Directive 5000.1](#), "Defense Acquisition," October 23, 2000
 - (c) DoD 5000.2-R Interim Final Regulation, "Mandatory Procedures for Major Defense Acquisition Programs (MDAPs)," January 4, 2001
 - (d) Nuclear Weapons Council Procedural Guideline for the Phase 6.X Process," April 19, 2000 ¹
 - (e) through (l), see enclosure 1

1. REISSUANCE AND PURPOSE

This Instruction:

1.1. Reissues reference (a) to implements policy, assign responsibilities, and prescribe procedures for joint Department of Defense (DoD)/Department of Energy (DOE) nuclear weapon life-cycle activities.

1.2. Implements references (b) and (c) as they apply to joint DoD-DOE nuclear weapon life-cycle activities, and reference (d) as it applies to the refurbishment guidelines issued by the Nuclear Weapons Council.

¹ Copies available from the Deputy Assistant to the Secretary of Defense for Nuclear Matters, Room 3C125, The Pentagon.

2. APPLICABILITY AND SCOPE

This Instruction:

2.1. Applies to the Office of the Secretary of Defense (OSD), the Military Departments, the Chairman of the Joint Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, and DoD Field Activities, and all other organizational entities within the Department of Defense (hereafter referred to collectively as "the DoD Components").

2.2. Provides procedures for all joint DoD-DOE nuclear weapons development, production, sustainment, and retirement activities (including studies). For the purpose of this Instruction, the meaning of "sustainment" is strictly as defined in enclosure 2.

2.3. Establishes and provides for the ongoing responsibilities and procedures of duly constituted Project Officer Groups (POGs) throughout the stockpile life of their associated nuclear weapons.

2.4. Does not provide procedures for routine stockpile activities (defined in enclosure 2). Such procedures are the responsibility of the Cognizant Military Departments and the DOE. However, if routine stockpile activities result in generation of a requirement for a previously unscheduled joint DoD-DOE change to a weapon, or changes to its Military Characteristics (MCs) or Stockpile-to-Target-Sequence (STS), the resulting activity shall be considered a sustainment activity and DoD actions shall be performed in accordance with the procedures provided in this Instruction.

3. DEFINITIONS

Terms used in this Instruction are defined in enclosure 2.

4. POLICY

The Department of Defense and the DOE have complementary responsibilities based on law and formal agreements to provide a safe, secure, and militarily effective nuclear weapons stockpile. All nuclear weapon development, production, sustainment, and retirement projects shall be coordinated fully between the Department of Defense and the DOE, and shall consider total weapon cost and performance (including DOE costs and other resource requirements) in establishing military requirements and design objectives. The Department of Defense and DOE will jointly determine the classification of developmental systems.

5. RESPONSIBILITIES

Under the provisions reference (e):

5.1. The Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L)) shall:

5.1.1. Have overall responsibility for executing DoD nuclear weapons development, production, sustainment and retirement requirements under Nuclear Weapons Council MOA (reference (f)), and 10 U.S.C. 179, "Nuclear Weapons Council" (reference (g)).

5.1.2. Be the Milestone Decision Authority (MDA) unless USD(AT&L) otherwise delegates the authority and the Nuclear Weapons Council (NWC) or its designee shall be the Milestone Review Body (MRB) for all activities covered by this Instruction.

5.2. The Assistant to the Secretary of Defense for Nuclear and Chemical and Biological Defense Programs (ATSD(NCB)) shall:

5.2.1. Act as the principal staff assistant and advisor to the Secretary and the Deputy Secretary of Defense, and the USD(AT&L) for all matters concerning the formulation of policy and plans for nuclear weapons, and is responsible for issuing guidance on defense atomic energy matters (DoD Directive 5134.8 (reference (h))).

5.2.2. Issue USD(AT&L)-approved guidelines as needed to update threshold criteria for program categories, associated program review frequency, MDAs, and MRBs for nuclear weapons programs.

5.2.3. Act on matters concerning the formulation of policy and plans for nuclear weapons delegated by USD(AT&L).

5.3. The Heads of the DoD Components shall ensure compliance with this Instruction, and update related publications under their cognizance to be consistent with this Instruction.

5.4. The Secretaries of the Military Departments shall, as needed for nuclear weapons under their cognizance, develop procedures for routine nuclear weapon stockpile activities that are jointly conducted by the Department of Defense and DOE.

5.5. The Program Managers (PMs) and Milestone Decision Authorities (MDAs) shall ensure compliance with legal review requirements of DoD Directive 5000.1 (reference (b)). If a nuclear warhead undergoes significant changes in its Military Characteristics (MCs), so as to create a substantially different munition, a legal review is required prior to fielding this munition. PMs and MDAs should contact their Service component's Staff Judge Advocate for information on legal review compliance.

6. PROCEDURES

6.1. Overview. The procedures included in this Instruction are designed to serve as a general model for managing nuclear weapons development, sustainment, and retirement programs. The broad coverage of the general model acknowledges that every program is different. Any singular activity need not follow the entire process described below. However, cognizant of this model, the Program Manager (PM) and the Milestone Decision Authority (MDA) shall structure the program to ensure a logical progression through a series of phases designed to ensure nuclear safety, reduce risk, ensure affordability, and provide adequate information for decision-making that shall provide the needed capability to the warfighter in the shortest practical time.

6.1.1. PMs and MDAs shall generally adhere to the process described; however, subject to constraints issued by the ATSD(NCB), they shall tailor the process to match the conditions of individual non-major programs.

6.1.2. The development and sustainment process shall be structured in logical phases with major decision points called milestones. The process shall begin with the identification of broadly stated mission needs that cannot be satisfied by nonmateriel solutions. Program stakeholders shall consider the full range of alternatives prior to deciding to initiate a program. Nuclear surety, threat projections, system performance, certification, surveillance, unit production cost estimates, life-cycle costs, interoperability, cost-performance-schedule tradeoffs, acquisition strategy, affordability constraints, and risk management shall be major considerations at each milestone decision point, including the decision to start a new program.

6.1.3. At program initiation, the PM shall propose, and the MDA shall consider for approval, the appropriate milestones, the level of decision for each milestone, and the documentation needed for each milestone. This proposal shall consider the size, complexity, and risk of the program. The determinations made at program initiation shall be reexamined at each milestone in light of then-current program conditions.

6.2. Program Categories and Milestone Decision Authorities. The MDA, at program initiation, shall designate the program category (CAT I, CAT II or CAT III) according to USD(AT&L)-approved guidelines issued by the ATSD(NCB). The program category shall determine the MDA and MRB level. The MDA is USD(AT&L) and the MRB is the NWC for all activities covered by this Instruction, and all activities shall follow the instructions herein for CAT I programs.

6.3. Program Modifications. Any program modification that is of sufficient cost and complexity that it could itself qualify as a CAT I program shall be considered for management purposes as a separate effort. Modifications that do not cross the CAT I threshold shall be considered part of the program being modified, unless the program is no longer in production. In that case, the modification shall be considered a separate effort.

6.4. Determining Mission Needs and Identifying Deficiencies. All acquisition or sustainment programs are based on identified, documented, and validated mission needs. Mission needs result from ongoing assessments of current and projected capability. Mission needs may seek to establish a new operational capability, to improve or sustain an existing capability, or to exploit an opportunity to reduce costs or enhance performance. DoD Components shall first try to satisfy mission needs through nonmateriel solutions, such as changes in doctrine or tactics. If a nonmateriel solution is deemed not feasible, the Component shall document its considerations and determine whether the Department of Defense's portion of the potential materiel solution could result in a DoD Acquisition Category I (ACATI) program (DoD 5000.2-R (reference (c))). If the potential materiel solution could result in a new DoD ACATI or Joint Requirements Oversight Council (JROC) special interest program, the JROC shall review the documented mission need, determine its validity, and establish joint potential. Detailed information on program definition is included in enclosure 3.

6.5. Detailed Phase Procedures. Detailed procedures for specific program phases are provided in enclosure 4.

6.6. Milestone Decision Program Reviews. The MDA shall establish tailored milestone decision points for each acquisition program as early as possible in the program life cycle. At each milestone or program review, as required in reference (c), the MDA shall determine that the program being reviewed is progressing satisfactorily and is still required under the current DoD Strategic Plan. Details on milestones for joint nuclear weapon life-cycle activities are provided in enclosure 5.

6.7. Nuclear Weapon Liaison with the DOE

6.7.1. Integrated Project Teams (IPTs). The Secretary of Defense has directed that the Department perform as many acquisition functions as possible, including oversight and review, using IPTs (DoD 5000.2-R (reference (c))). Consistent with DoD Regulations and in consultation with the designated MRB, the MDA shall determine whether a particular nuclear weapons project would benefit from forming a separate IPT. If an IPT is formed, it shall be used in close coordination with the traditional Project Officer Group (POG, see subparagraph 6.7.2.). Otherwise, the POG shall function as the IPT to coordinate activities associated with a nuclear weapon program. If a separate IPT is formed, it must be provided a specific charter, mission, scope, and lifetime by the MDA. Further, the guidance establishing the IPT must clearly delineate the division of responsibilities and relationship with the traditional POG.

6.7.2. Project Officers Groups (POGs). Formal communication between the Department of Defense and the DOE shall be transmitted through the NWC for action in accordance with the provisions of this Instruction, the Nuclear Weapons Council MOA, 10 U.S.C. 179, DoD Directive 5134.8 (references (f), (g), and (h)), and guidelines issued by the ATSD(NCB).

6.7.2.1. The details of development projects and any subsequent design change and sustainment projects shall be coordinated at the working level among the DoD Components concerned and between the Department of Defense and the DOE through formally designated project officers. The responsibility for coordination through designated project officers shall continue throughout the stockpile life of the weapon.

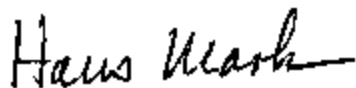
6.7.2.2. Detailed POG procedures are included in enclosure 6.

6.8. Design Review and Acceptance Group (DRAAG). As a project progresses through Phase 3/6.3 and into Phase 4/6.4 and Phase 5/6.5, development reports published by the DOE shall be formally reviewed for CAT I and II projects by the DRAAG. The review of the DOE design for compliance with the Military Characteristics (MCs) (as amplified by the Stockpile-to-Target-Sequence (STS)) for all practical purposes shall be a continuous process. The review process will culminate in a recommendation for standardization/acceptance action by the appropriate MRB to the MDA to accept the weapon as a "Standard" or "Limited" stockpile item. Ideally, this action shall terminate Phase 5/6.5, "First Production" and provide the basis for the decision to start Phase 6/6.6, "Full-Scale Production." Details of the procedures to be followed in conducting DRAAG business are included in enclosure 7.

6.9. Performance Requirements, Acceptability, and Reviews. Enclosure 8 provides details regarding the relationship between the military requirements (MCs supplemented by the STS) and review of weapon acceptability by the DRAAG.

7. EFFECTIVE DATE

This Instruction is effective immediately.



Hans Mark
Director
Defense Research & Engineering

Enclosures - 8

- E1. References, continued
- E2. Definitions
- E3. Program Definition
- E4. Detailed Phase Procedures
- E5. Milestone Decision Program Reviews
- E6. Project Officers Group Procedures
- E7. Design Review and Acceptance Group Responsibilities and Procedures For Nuclear Weapons Design Reviews And Standardization
- E8. Performance Requirements, Acceptability, and Reviews

E1. ENCLOSURE 1

REFERENCES, continued

- (e) [DoD Directive 5134.1](#), "Under Secretary of Defense for Acquisition and Technology (USD(A&T))," April 21, 2000
- (f) Memorandum of Agreement between the Department of Defense and Department of Energy, "Joint Nuclear Weapons Council," May 23, 1997
- (g) Section 179 of title 10, United States Code, "The Nuclear Weapons Council," November 14, 1986, as amended
- (h) [DoD Directive 5134.8](#), "Assistant to the Secretary of Defense for Nuclear and Chemical and Biological Defense Programs (ATSD(NCB))," June 8, 1994
- (i) [DoD Instruction 4715.9](#), "Environmental Planning and Analysis," May 3, 1996
- (j) [DoD Directive 4715.1](#), "Environmental Security," February 24, 1996
- (k) [DoD Directive 5105.62](#), "Defense Threat Reduction Agency (DTRA)," September 30, 1998
- (l) DOE-DTRA TP 50-20, Army TM 39-50-20, Navy SWOP 50-20, Air Force TO 11N-50-20, "Procedures for Preparation and Use of Military Characteristics and Stockpile-to-Target Sequences for Nuclear Weapons," January 15, 1992

E2. ENCLOSURE 2

DEFINITIONS

E2.1.1. Alteration. A material change to, or a prescribed inspection of, a nuclear weapon or major assembly that does not alter its operational capability, yet is sufficiently important to the user, regarding assembly, maintenance, storage, or test operations, to require controlled application and identification.

E2.1.2. Limited Stockpile Item. A nuclear weapon for which conformance to the approved Military Characteristics has not been satisfactorily demonstrated to the Department of Defense and on which the Department of Defense desires further DOE development effort on the nuclear weapon or associated DOE-developed components.

E2.1.3. Major Milestone. A decision point that separates specified phases of a nuclear weapon program. Major milestones include, for example, the decisions to authorize entry into development engineering or full-scale production.

E2.1.4. Major System. A combination of elements that shall function together to produce the capabilities required to fulfill a mission need, including hardware, equipment, software, or any combination thereof, but excluding construction or other improvements to real property. A system shall be considered a major system if it is estimated by the Assistant to the Secretary of Defense for Nuclear and Chemical and Biological Defense Programs (ATSD(NCB)) to require an eventual total expenditure for research, design, test and evaluation, or procurement, exceeding threshold values established in ATSD(NCB) guidance, or if designated as major by the ATSD(NCB). For the purpose of this Instruction, the total cost of the program - regardless of the source of funding - shall be used to determine the category of the program.

E2.1.5. Milestone Decision Authority (MDA). The individual authorized to approve entry of a nuclear weapon program into a subsequent phase. The MDA is chosen in accordance with USD(AT&L)-approved guidance issued by the ATSD(NCB). Unless otherwise delegated by the USD(AT&L), the MDA for all activities covered by this Instruction is the USD(AT&L).

E2.1.6. Milestone Review Body (MRB). The body that provides management oversight and assists the MDA in reviewing a nuclear weapons program and that provides advice to the MDA as to the program's progress towards meeting its established milestones. The MRB is chosen in accordance with USD(AT&L)-approved guidance

issued by the ATSD(NCB). The MRB for all activities covered by this Instruction is the Nuclear Weapons Council.

E2.1.7. Military Characteristics (MCs). Those characteristics of a specific nuclear weapon upon which depends its ability to perform desired military functions. The MCs describe required weapon yields and fuzing options; weapon operational, physical, functional, environmental, vulnerability, safety and reliability parameters; maintenance, monitoring, storage and handling considerations; and set forth the priority of design compliance in the event of conflicting design requirements.

E2.1.8. Modification. A design change to a major assembly that affects delivery (employment or utilization), fuzing, ballistics, or logistics. Because modifications affect operational capability, they require positive controls to ensure that the resulting operational capability is clearly defined.

E2.1.9. Nuclear Weapons Council (NWC). An advisory/approval body established under DoD-DOE MOU (reference (f)) and 10 U.S.C. 179 (reference (g)) to provide high-level oversight, coordination and guidance to nuclear weapons stockpile activities. It is chaired by USD(AT&L), with the Vice Chairman of the Joint Chiefs of Staff and a senior representative from the DOE as members.

E2.1.10. Nuclear Weapons Council Standing and Safety Committee (NWCSSC). A committee formed to support the NWC in handling day-to-day matters affecting the stockpile but not requiring the level of oversight of the NWC. It is chaired by the ATSD(NCB), who also serves as the Executive Secretary to the NWC.

E2.1.11. Program Manager. A general term of reference to an organization or individual who exercises authority over the planning, direction, and control of tasks and associated functions essential for support of designated weapons or equipment systems. The authority vested in this organization or individual may include such functions as research, development, procurement, production, materiel distribution, and logistic support, when so assigned.

E2.1.12. Program Phase. All the tasks and activities needed to bring a development or sustainment program to the next major milestone occur during one or more phases of the weapon program. Phases provide a logical means of progressively translating broadly stated mission needs into well-defined system-specific requirements, and ultimately into operationally effective, suitable, and survivable systems.

E2.1.12.1. For nuclear weapon development, sustainment, and retirement, the standard DoD phases (DoD 5000.2-R (reference (c))) are normally tailored to be consistent with the development/refurbishment phases used by the DOE. DOE has historically labeled developmental phases for new nuclear weapons as Phase 1: Weapon Conception through Phase 6: Quantity Production. Phase 7 is the Retirement Phase for a weapon. As the term "Phase 6" is used today, it refers to the period of time that begins when a weapon has entered Quantity Production and extends until the beginning of the retirement phase. During Phase 6, a weapon will undergo a series of routine stockpile activities that are part of the normal maintenance and upkeep of the weapon. In addition, a weapon may also undergo any number of activities that are not routine stockpile activities. These non-routine activities are referred to in this Instruction as sustainment projects (defined below). Sustainment projects are conducted in phases (reference (d)) tailored from the original new weapon development phases, and labeled as Phase 6.1: Concept Assessment through Phase 6.6: Full-Scale Production.

E2.1.12.2. For the purposes of this Instruction, the distinctions that drive the details of DoD involvement in joint nuclear weapons activities are the resource level and national security impact of the proposed activity. These considerations are not necessarily tied to the issue of whether an activity is a sustainment or a new weapon development. Accordingly, a common set of tailorable procedures shall be used for all DoD activities supporting joint DoD-DOE nuclear weapons development, sustainment and retirement projects. Tailoring the procedures described below shall include both the selection of applicable phases as well as the determination of appropriate levels of review and decision authority, consistent with the USD(AT&L)-approved guidelines to be issued by the ATSD(NCB). In general terms, the development/sustainment phases can be described as:

E2.1.12.2.1. Phase 1/6.1. Conception. This phase consists of continuing studies by DOE, the Department of Defense, and others. A continuous exchange of information, both formal and informal, is conducted among individuals and groups. This results in the focusing of sufficient interest in an idea for a new weapon or component, or sustainment concept to warrant a program study.

E2.1.12.2.2. Phase 2/6.2. Determination of Feasibility and Responsibility. This phase includes the determination of the feasibility and desirability of undertaking the new weapon or sustainment project, the establishment of MCs, and the determination of respective responsibilities between the DOE and the Department of Defense for the various tasks involved in program execution.

E2.1.12.2.3. Phase 2A/6.2A. Definition and Cost Studies. A phase in which the DOE identifies information on costs, production schedules, options, and tradeoffs, including those involving safety, security, survivability, and control features for the weapon. The Department of Defense develops the necessary plans in its area of responsibility, such as flight testing, trainer and handling gear procurement, or procurement of new DoD components.

E2.1.12.2.4. Phase 3/6.3. Development Engineering. This phase includes those events beginning with the launching of DOE's development or sustainment program, through the determination of specifications, and culminating in the design release by the design laboratories.

E2.1.12.2.5. Phase 4/6.4. Production Engineering. This phase covers those activities that adapt the developmental or sustainment design into a manufacturing system that can produce weapons and components on a production basis. It culminates in the DOE release of the design for production for a new weapon or DOE engineering releases for sustainment activities.

E2.1.12.2.6. Phase 5/6.5. First Production. This phase comprises the production of the first new or sustained weapons, their evaluation by the DOE and the Department of Defense, and terminates in the Department of Defense's formal acceptance action or approval for full-scale production or modification.

E2.1.12.2.7. Phase 6/6.6. Full-Scale Production. During this phase the DOE undertakes the full-scale production of new or sustained weapons for stockpile.

E2.1.12.2.8. Phase 7. Retirement. This phase begins when a program of physical removal of the weapon from the DoD stockpile is indicated.

E2.1.13. Project Officers Group (POG). A working-level body that coordinates activities associated with a particular weapon. Specific responsibilities and procedures for the POG are provided in enclosure 6.

E2.1.14. Refurbishment. A generic term defined as all nuclear weapon alterations (E2.1.1.) and modifications (E2.1.8.) to include life extension, modernization, and revised military requirements. Refurbished weapons are assigned a new alteration or modification number for stockpile management purposes.

E2.1.15. Routine Stockpile Activities. Scheduled or planned activities associated with the normal maintenance of stockpiled weapons (such as exchange of limited-life components, joint surveillance testing, etc.) and unscheduled activities that support

routine maintenance programs. Examples of unscheduled routine stockpile activities include such activities as exploratory testing associated with significant finding investigations. Routine Stockpile Activities may involve cooperation and coordination of the Military Departments with DOE in maintaining stockpiled nuclear weapons.

E2.1.16. Standard Stockpile Item. A nuclear weapon that meets the approved MCs to the extent that the Department of Defense desires no further DOE development effort on the nuclear weapon or associated DOE-developed components.

E2.1.17. Stockpile-to-Target-Sequence (STS). A document that defines the logistical and employment concepts and related physical environments, including vulnerability criteria, involved in the delivery of a nuclear weapon from the stockpile to the target. It may also define the logistical flow involved in moving nuclear weapons to and from the stockpile for quality assurance testing, modification and retrofit, and the recycling of limited-life components. The STS supplements the MCs and provides technical detail primarily to the DOE design agency and secondarily to the DoD design agency.

E2.1.18. Sustainment. Any post-production, non-routine, change to a weapon, its MCs or STS. Studies of sustainment concepts or activities to implement such concepts are collectively defined to be Sustainment Projects/Programs.

E3. ENCLOSURE 3
PROGRAM DEFINITION

E3.1.1. Purpose. Program definition is the process of translating broadly stated mission needs into a set of operational requirements from which specific performance specifications are derived. Use of the procedures in this Instruction shall help ensure that Category (CAT) I programs approved to proceed into engineering development, and CAT I programs approaching full-scale production, are well-defined and carefully structured to represent a judicious balance of cost, schedule, and performance; available technology; and affordability constraints. MDAs for CAT II and CAT III programs shall tailor the procedures in this section as appropriate for their programs (see paragraph 6.2., Program Categories and Milestone Decision Authorities).

E3.1.2. Requirements Evolution. The DoD Components shall document performance deficiencies in current capabilities and opportunities to provide new capabilities in a Mission Need Statement (MNS) as specified in DoD 5000.2-R (reference (c)). The MNS shall be validated prior to Milestone 0/I (detailed information on Milestones, Milestone Decision Reviews, and their correspondence to program phases is provided in enclosure 5). System performance objectives and thresholds shall be developed from, and remain consistent with, the initial broad statements of operational capability. The requirements shall be refined at successive milestone decision points, as a consequence of Cost as an Independent Variable (CAIV)-based cost-schedule-performance tradeoffs during each phase of the acquisition process.

E3.1.2.1. At each milestone beginning with program initiation (usually Milestone 0/I), thresholds and objectives initially expressed as measures of effectiveness or performance and minimum acceptable requirements for the proposed concept or system shall be documented by the user or user's representative in an Operational Requirements Document (ORD) consistent with the specifications contained in reference (c).

E3.1.2.2. Thresholds and objectives are defined in reference (c).

E3.1.2.3. Evaluation of Requirements Based on Commercial Market Potential. The potential of the commercial marketplace to meet system performance requirements shall be evaluated in accordance with reference (c). The results of the evaluation shall be included as part of the initial ORD.

E3.1.2.4. Strategic Requirements Considerations. Before establishing new CATI programs, DoD Components shall address the applicable strategic requirements considerations provided for DoD Acquisition Category I (ACATI) programs in reference (c).

E3.1.3. Milestone Decision Reviews

E3.1.3.1. The MRB (designated in accordance with guidance from the ATSD(NCB)) completes the milestone review and documents its findings in preparation for a program initiation decision (usually Milestone 0/I) (detailed information on Milestones, Milestone Decision Reviews, and their correspondence to program phases is provided in enclosure 5. Information appropriate for review at the end of specific phases is discussed in enclosure 4). The Milestone Decision Authority (MDA) may direct updates to the analysis for subsequent decision points, if conditions warrant. For example, an analysis of alternatives may be useful in examining cost performance trades at Milestone II. An analysis of alternatives is unlikely to be required for Milestone III, unless the program or circumstances (e.g., threat, alliances, operating areas, technology) have changed significantly.

E3.1.3.2. An Analysis of Alternatives (AoA) is part of the CAIV process and shall be prepared and considered at appropriate milestone decision reviews of CATI programs, beginning with program initiation (usually Milestone 0/I), following the procedures for ACATI programs provided in DoD 5000.2-R (reference (c)).

E3.1.3.3. Affordability is the degree to which the life-cycle cost resulting from execution of a development or sustainment program is in consonance with the long-range investment and force structure plans of the Department of Defense, DOE, or individual DoD Components. Consistent with reference (c), affordability shall be assessed at each milestone decision point beginning with program initiation (usually Milestone 0/I). No program shall be approved to proceed beyond program initiation unless appropriate resources in support of the plan, including manpower, are programmed in the most recently approved Future Year Defense Plan (FYDP) and DOE budget submission, or will be programmed in the next Program Objective Memorandum (POM), Budget Estimate Submission (BES), DOE Budget or President's Budget (PB). It is recognized that the DOE and DoD programming and budgeting systems are different, and MDAs shall take those differences into account in applying this provision.

E3.1.3.4. Supportability factors are integral elements of program performance specifications. However, consistent with reference (c), support requirements are not to be stated as distinct logistics elements, but instead as performance requirements that relate to a system's operational effectiveness, operational suitability, and life-cycle cost reduction.

E4. ENCLOSURE 4
DETAILED PHASE PROCEDURES

E4.1.1. Phase 1/6.1: Conception. Any DoD Component (with the cooperation of other DoD Components and the DOE, as desired) or the DOE may conduct a Phase 1/6.1 study to define a new weapon or sustainment concept and to help the DoD Component concerned and the MDA decide whether to proceed with a joint Phase 2/6.2 study. The PM shall inform the NWCSSC in writing prior to the onset of a Phase 1/6.1 activity to be conducted jointly by the DOE and the Department of Defense.

E4.1.1.1. A Phase 1/6.1 study can be formal or informal. There is no set format or approach; however, the resulting Phase 1/6.1 information (sometimes called the Phase 1/6.1 Data Package) must contain sufficient information to permit the sponsoring DoD Component and the MDA to evaluate the advisability of proceeding with a Phase 2/6.2 study. The Phase 1/6.1 information, to be considered complete, should contain insofar as practical the applicable information described in attachment E4.A1.

E4.1.1.2. When the concept involves a nuclear weapon associated with a major defense system acquisition, the Phase 1/6.1 study shall be completed prior to, and shall be submitted with, a request for a decision to proceed with development of the major system in accordance with current DoD acquisition policy

E4.1.1.3. If the Phase 1/6.1 study foresees the modification of an existing nuclear weapon or the development of a new nuclear weapon, the DoD Component concerned shall ask the DOE to examine the practicability of at least that portion of the concept.

E4.1.1.4. For a new weapon or when changes to an existing weapon require a change in the Military Characteristics (MCs), the initiating Department shall prepare draft MCs to state the performance requirements and physical characteristics for those parts of a nuclear weapon that are the sole responsibility of the DOE to design, develop, certify, and produce. MCs begin as a statement of desired DoD performance objectives and become design requirements only after formal DOE acceptance. See enclosure 8 for more details on MCs.

E4.1.1.5. For a new weapon or when changes to an existing weapon require a change in the Stockpile-to-Target-Sequence (STS), the initiating Department shall draft an initial STS to supplement the MCs by describing the logistical and operational

concepts for the weapon and the resulting physical environments that the nuclear weapon can encounter. The STS is developed through an evolutionary process beginning in Phase 1/6.1 of a weapon development program and is a "living" document that is reviewed continuously and revised as required throughout the life of a nuclear weapon project. See enclosure 8 for more details on the STS.

E4.1.1.6. Preliminary draft MCs shall be included in the Phase 1/6.1 report for any Phase 1/6.1 study that expects the modification of an existing nuclear weapon or the development of a new nuclear weapon. These preliminary draft MCs may be partially in outline form and may indicate sections to be determined. For sustainment programs not requiring a change to the MCs and STS, the Phase 1/6.1 report shall contain a statement that existing MCs and STS documents shall be used.

E4.1.2. Phase 2/6.2: Determination of Feasibility and Responsibility

E4.1.2.1. Request to Initiate a Phase 2/6.2 Project

E4.1.2.1.1. Any Military Department may submit to the MDA for approval a request for a joint Phase 2/6.2 study. The request to initiate a Phase 2/6.2 study shall include a statement describing the status of the Phase 1/6.1 information and a proposed draft of a letter to DOE from the MDA containing the information outlined in attachment E4.A2.

E4.1.2.1.2. If the request is approved, the MDA shall:

E4.1.2.1.2.1. (For new weapons programs) Designate a Military Department as the "Cognizant Military Department" to chair a joint Phase 2/6.2 study.

E4.1.2.1.2.2. Request formally that the DOE participate.

E4.1.2.1.3. The formal request for DOE participation shall be sent through the Nuclear Weapons Council (NWC).

E4.1.2.1.4. In addition to the joint Phase 2/6.2 report, the DOE shall be requested to produce a Major Impact Report (MIR) identifying those aspects of the development, design, testing, and production processes perceived as likely determining factors in meeting program objectives.

E4.1.2.1.5. The Military Departments shall review annually Phase 2/6.2 studies that have not progressed to Phase 2A/6.2A or Phase 3/6.3 and shall recommend to the MDA the continuation, reopening or cancellation of such Phase 2/6.2 studies; or

initiation of Phase 2A/6.2A or Phase 3/6.3 if either is appropriate. The MDA shall inform the DOE of any such changes through the NWC.

E4.1.2.2. Phase 2/6.2 Study Procedures

E4.1.2.2.1. The objective of the Phase 2/6.2 study is to determine the technical feasibility of developing a nuclear weapon or sustainment concept to meet the stated Phase 1/6.1 requirements as modified by the guidance in the Phase 2/6.2 study letter from the Department of Defense to the DOE. Although the desirability or feasibility of the development of the associated weapon(s) or sustainment concept is not an issue, in some cases study of weapon/delivery system tradeoffs is indicated.

E4.1.2.2.2. The Phase 2/6.2 study shall present proposed solutions, available tradeoffs, and recommendations to enable the DoD Components to determine whether engineering development of a suitable weapon or sustainment concept should be initiated. Sometimes this may include nominating a preferred design approach.

E4.1.2.2.3. Phase 2/6.2 reports shall normally conform to the requirements outlined in attachment E4.A3. The reports shall in each case include a written environmental analysis as required under the National Environmental Policy Act and in accordance with DoD Instruction 4715.9 (reference (i)). If a written legal review is required in accordance with DoD Directive 5000.1 (reference (b)), the results of the review shall also be included in the Phase 2/6.2 report. PMs and MDAs should contact their Service component's Staff Judge Advocate for guidance in determining legal review requirements.

E4.1.2.2.4. The MDA shall direct the Cognizant Military Department to lead an approved Phase 2/6.2 study. The Cognizant Military Department shall:

E4.1.2.2.4.1. Ensure distribution of the approved Phase 1/6.1 information to participating Components/Agencies.

E4.1.2.2.4.2. Provide a chairman for all Phase 2/6.2 study meetings. (Insofar as practicable, the same person shall serve as chairman throughout the course of the study.)

E4.1.2.2.4.3. Coordinate ongoing Phase 2/6.2 activities with interested DoD Components and prepare, coordinate, publish, and distribute minutes of the formal meetings and the Phase 2/6.2 report.

E4.1.2.2.4.4. Prepare and distribute draft MCs in the format and content outlined in enclosure 8 to appropriate OSD offices, to other interested DoD

Components, the MRB, and to the DOE. For sustainment programs not requiring a change to the MCs and STS, the Cognizant Military Department shall prepare a letter to the MDA stating that existing MCs and STS documents shall be used.

E4.1.2.2.4.5. Forward one copy of completed Phase 2/6.2 studies to the MDA, three to DDR&E (new weapons only), and one to other interested DoD Components as soon as practicable after completion. This requirement shall not be made contingent upon completion of coordination within the DOE of the impact and capabilities information normally requested in the Department of Defense's Phase 2/6.2 letter to the DOE.

E4.1.2.2.5. Each DoD Component participating in the study shall designate a representative who shall attend all meetings and be authorized to act as spokesman for that DoD Component.

E4.1.2.2.6. Phase 2/6.2 studies of nuclear weapons for major defense systems shall be completed prior to, and shall be submitted with, a request for a decision to proceed with development of the major system in accordance with current DoD acquisition policy.

E4.1.2.3. Continued or Reopened Phase 2/6.2 Studies

E4.1.2.3.1. As required by subparagraph E4.1.2.1.5., an annual review shall be conducted by the Military Departments of those Phase 2/6.2 studies that have not progressed to Phase 2A/6.2A or Phase 3/6.3. The review shall consider the following in determining to continue or reopen a Phase 2/6.2 study:

E4.1.2.3.1.1. Continued or renewed interest in the weapon or sustainment concept.

E4.1.2.3.1.2. Technical progress possibly applicable to the concept.

E4.1.2.3.1.3. The applicability of the original Phase 1/6.1 information.

E4.1.2.3.2. When the Cognizant Military Department or other sponsoring DoD Component requests the continuation or reopening of a Phase 2/6.2 study, a statement shall be included outlining the basis for continuing or renewed interest in the weapon concept, and providing assurance that the original Phase 1/6.1 information remains applicable (with minor changes) to the reopened Phase 2/6.2 study. In the event feasibility was not initially established, a statement shall be included affirming that

technical advances (possibly applicable to the weapon and/or weapon concept) have become known.

E4.1.2.4. Phase 2A/6.2A Definition and Cost Studies

E4.1.2.4.1. After the completion of the Phase 2/6.2 report, and before a decision to request a Phase 3/6.3 project, the Cognizant Military Department may request that the DOE join the Department of Defense in conducting a Phase 2A/6.2A study.

E4.1.2.4.1.1. For a new weapon, the USD(AT&L) may also request that the DOE join the Department of Defense in forming a Project Officers Group (POG) and designate a Military Department to provide the Lead Project Officer (LPO), or assign coordination responsibility for new weapon activities to an existing POG.

E4.1.2.4.2. The DoD Phase 2/2A request shall include a projected date for the beginning of a Phase 3/6.3 project, a projected initial operation capability, and a proposed production schedule. The request shall ask that the DOE identify information on costs, production schedules, options, and tradeoffs, including those involving safety, security, survivability, and control features for the weapon.

E4.1.2.4.3. With coordination through the POG, the Cognizant Military Department shall develop the necessary plans and life-cycle costs in its areas of responsibility (such as flight testing, maintenance/logistics, trainer and handling-gear procurement, or procurement of new DoD components). The POG shall incorporate DOE and Service planning inputs into the Joint Integrated Project Plan (JIPP).

E4.1.2.4.4. DOE Development Program cost information shall be included in the Weapon Design and Cost Report (WDCR) provided by the DOE.

E4.1.2.4.5. Additional information shall be provided in the minutes of the POG meetings or in separate reports, as appropriate.

E4.1.3. Phase 3/6.3: Development Engineering

E4.1.3.1. Requests to Initiate a Phase 3/6.3 Project

E4.1.3.1.1. The Military Departments may transmit a request for a Phase 3/6.3 project to the MDA based on favorable evaluation of a Phase 2/6.2 or Phase 2A/6.2A study. The request shall consist of a thoroughly supported case including cost/performance tradeoffs and an analysis of the DOE's Major Impact Report (MIR)

and WDCR information. All feasible options shall be clearly identified and evaluated; and the following decision considerations shall be specifically addressed:

E4.1.3.1.1.1. Affirmation and assessment of need. This section shall include impact on mission effectiveness associated with decision options, namely: proceed no further; continue in Phase 2/6.2 or Phase 2A/6.2A; begin Phase 3/6.3 development of the recommended weapon, sustainment activity or an acceptable alternative. (In certain instances, it may be necessary to pursue Phase 3/6.3 development of two or more candidates until the uncertainties are resolved.)

E4.1.3.1.1.2. Technological feasibility and risk assessment.

E4.1.3.1.1.3. Costs in resources and dollars, nuclear materials availability, stockpile alternatives/projections and funding requirements for DoD-designed and produced components. These considerations shall be presented in the form of a Cost as an Independent Variable (CAIV) Analysis of Alternatives (AoA) in accordance with DoD 5000.2R (reference (c)).

E4.1.3.1.1.4. Environmental effects assessment (subparagraph E4.1.2.2.3.).

E4.1.3.1.2. The MDA, in coordination with other OSD principal staff assistants having responsibilities relating to nuclear weapons programs, shall review Phase 3/6.3 requests and solicit the views of other DoD Components concerned. When joint DOE-DoD nuclear weapons development or sustainment is determined appropriate, the MDA shall transmit a Phase 3/6.3 request to the DOE, requesting DOE participation and forwarding the MCs and STS to the DOE. The MDA shall send the request through the NWC. The MDA shall designate a Military Department to lead the project for the Department of Defense.

E4.1.3.2. Joint Integrated Project Plan (JIPP). The Phase 3/6.3 request shall include a Joint Integrated Project Plan. For sustainment projects, this plan shall be an addendum to the Final Weapon Development Report (FWDR). The plan shall:

E4.1.3.2.1. Report on design status and provide design objectives, new weapon or sustainment activity descriptions, proposed qualification activities, ancillary equipment requirements, project schedule, and the requisites for the production decision.

E4.1.3.2.2. Describe the program management structure.

E4.1.3.2.3. Furnish a proposed (tentative) joint agreement (for new weapons development only) between the DOE and the Department of Defense on the division of responsibilities on the project. If the proposed agreement is not formally coordinated with the DOE, informal DOE comments on the proposed division of responsibility should be provided.

E4.1.3.3. Cognizant Military Department Phase 3/6.3 Responsibilities. The Cognizant Military Department designated by the MDA to lead an approved project for the Department of Defense, in addition to Phase 3/6.3 responsibilities described elsewhere in this Instruction, is responsible for:

E4.1.3.3.1. Concluding a formal joint agreement (for new weapons development only) with the DOE for the division of responsibilities on the approved project as soon as possible after MDA approves the project. The final agreement shall be coordinated with all interested DoD Components.

E4.1.3.3.2. Designing, developing, and refurbishing or producing those components of the weapon that are specified as the responsibility of the Department of Defense under the terms of the negotiated specific agreement. The Cognizant Military Department shall ensure that the requirements of other interested Military Departments have been fully considered and that the characteristics and environments specified for DoD-produced weapon system components are compatible with similar guidance provided to the DOE for DOE-produced components.

E4.1.3.3.3. Convening a Design Review and Acceptance Group (DRAAG; see enclosure 7) for CATI and CATII activities, to review the draft JIPP and publish the Preliminary DRAAG Report. The Preliminary DRAAG Report shall include recommendations regarding the status of the project and shall be forwarded by the Cognizant Military Department to the MRB for their acceptance.

E4.1.3.3.4. Updating the JIPP and coordinating with DOE on updates to the WDCR.

E4.1.4. Phase 4/6.4: Production Engineering

E4.1.4.1. During this phase DoD Components shall conduct testing of developmental prototypes as necessary. The POG, in conjunction with DOE, shall coordinate joint testing of developmental prototypes. Throughout this phase the appropriate Service shall maintain liaison with appropriate DOE activities through the POG.

E4.1.4.2. DoD Components shall initiate action to provide for spares, update and validate technical publications through Laboratory Task Group and Joint Task Group evaluations; update surveillance planning; develop an Interim DRAAG report if deemed necessary; and maintain and update the JIPP.

E4.1.4.3. Generally, this phase ends following the completion of production engineering, basic tooling, layout, and the adoption of fundamental assembly procedures. DOE release of the design for production for new weapons and engineering releases for sustainment activities indicate that the production processes, components, subassemblies, and assemblies are qualified.

E4.1.5. Phase 5/6.5: First Production

E4.1.5.1. This phase comprises the delivery of the first new or refurbished weapons from production facilities. During this phase, DOE makes a preliminary evaluation of the weapon pending its final evaluation and subsequent approval as to suitability, acceptability and/or standardization, and releases its final or updated FWDR.

E4.1.5.1.1. The preliminary evaluation does not constitute a finding that the weapons are suitable for operational use, except in emergency.

E4.1.5.1.2. Should the Department of Defense require weapons for test or training purposes prior to final approval by the DOE, then these weapons may be utilized with the understanding that the DOE final evaluation has not been made.

E4.1.5.1.3. A final evaluation of the weapon is made by DOE agencies after the completion of an engineering evaluation program for the weapon.

E4.1.5.2. The POG shall update the JIPP.

E4.1.5.3. The Cognizant Military Department shall convene the DRAAG to determine the final acceptability of the weapon prior to a decision to move forward with Phase 6/6.6. The DRAAG shall review the Final Draft of the FWDR (for new weapons) or the Final Draft of the Addendum to the FWDR (for sustainment activities) supplied by the responsible National Weapons Laboratories. The First Production Unit (FPU) milestone occurs when the first new or refurbished unit is produced and accepted by the Department of Defense. This phase terminates with the Department of Defense's acceptance and/or standardization action.

E4.1.6. Phase 6/6.6: Full-Scale Production

E4.1.6.1. The Cognizant Military Department may transmit a request to enter Phase 6/6.6 to the MDA based on favorable completion of Phase 5/6.5. The MDA shall forward this request to the DOE through the NWC.

E4.1.6.2. The POG shall prepare an End-of-Project Report for the MRB to document the activities carried out during the weapon development or sustainment process. Full-Scale Production under Phase 6/6.6 ends when all planned activities, certifications and reports are complete. Routine stockpile activities continue during Phase 6 until the weapon enters the retirement phase; the Cognizant Military Department is responsible for developing and implementing procedures for DoD activities associated with routine stockpile activities.

E4.1.7. Phase 7: Demilitarization and Disposal. At the end of its useful life, a system must be demilitarized and disposed. During demilitarization and disposal, the PM shall ensure materiel determined to require demilitarization is controlled and shall ensure disposal is carried out in a way that minimizes the Department of Defense's responsibility for meeting environmental, safety, security, and health requirements in accordance with the provisions of DoD Directive 4715.1 (reference (j)).

Attachments - 3

E4.A1. Checklist of Phase 1/6.1 Conception Information

E4.A2. Information Included in a DoD Request for DOE Participation in a Joint Phase 2/6.2 Project

E4.A3. Format and Content of a Phase 2/6.2 Report

E4.A1. ATTACHMENT 1 TO ENCLOSURE 4

CHECKLIST OF PHASE 1/6.1
CONCEPTION INFORMATION

1. A Phase 1/6.1 report should include the following information as applicable and to the extent practical, in a format as prescribed by the sponsoring DoD Component:

1.1. Objective

1.1.1. Purpose of Study

1.1.2. Weapon Characteristics and Parameters

1.2. Description of Weapon or Sustainment Concept

1.2.1. General Description

1.2.2. Performance Parameters

1.2.3. Mission Profiles

1.2.4. Transportability, Storage, and Ground Handling Considerations

1.2.5. Weapon/Delivery System(s) Compatibility Requirements

1.2.6. Sensitive Parameters, deviations from which would be critical to the successful development of the weapon or sustainment concept

1.3. Operational Concepts

1.3.1. Weapon Employment Concepts

1.3.2. Delivery Techniques

1.3.3. Weapon Limiting Parameters (Physical)

1.3.4. Yield and/or Effect Selection

1.3.5. Fuzing Options

1.3.6. Escape Procedures/Safe Separation Distance

1.3.7. Desired and Undesired Effects

1.3.8. Typical Targets

1.3.9. Unusual or Overriding Safety Considerations

1.3.10. Command and Control Features Required and/or Desired (e.g., applicability of weapon to NATO program cooperation or other extra-CONUS program)

2. Much of the above information can conveniently be expressed in:

2.1. Outline Military Characteristics (MCs) - to include but not be limited to weapon parameters and yield, fuzing options, vulnerability, and reliability.

2.2. Draft Stockpile-to-Target Sequence (STS) - as complete as possible with severe environments emphasized and vulnerability criteria specified.

E4.A2. ATTACHMENT 2 TO ENCLOSURE 4

INFORMATION INCLUDED IN A DoD REQUEST FOR DOE PARTICIPATION IN A
JOINT PHASE 2/6.2 PROJECT

The following information is normally included as applicable and to the extent practical, in an MDA request to the DOE to participate in a joint Phase 2/6.2 project:

1. A statement of the project objectives, including a description of the weapon or sustainment concept;
2. Notice of the designation of the Cognizant Military Department, which shall preside over the feasibility study and participate with the DOE and other DoD Components known to have an interest;
3. A listing of weapon parameters giving approximate dimensions (maximum/minimum), weights, lifetime, yields, safing/arming/fuzing options, release altitudes, and desirable and undesirable effects;
4. A statement on specific requirements such as yield selectability, weapon interchangeability, command and control systems, and other pertinent information;
5. When a range of yields or effects is required, a statement of the relative importance and percent of expected usage of each yield or effect;
6. A statement of First Production Unit (FPU) and Initial Operational Capability (IOC) dates with the number of weapons or components desired; subsequent pegpoint dates and quantities for operational and spare weapons; total operational quantity, including spares;
7. A statement of weapon definition and unusual features of planned use;
8. A listing of planned system compatibility/carriage (aircraft/missile etc.);
9. A statement of requirement for unusual safety features;
10. A statement of other study considerations, such as a desire for parametric treatment showing relationships among specifically designated variables (e.g., yield, costs, active materials, dimensions, weight, yield selectability, aircraft release conditions); whether design proposals should be based on off-the-shelf designs, state-of-the art, etc.;

11. A request for a separate DOE impact and capability study (A reasonable number of alternative DoD weapon deployment schedules shall be provided. If appropriate, the DOE will be requested to include in the impact and capabilities study an independent view of the potential benefits that may be achieved through modification of the candidate weapon designs, such as use of "natural" versus specified yields, alternative weapon or limited-life component lifetimes, and tradeoffs of physical parameters to achieve nuclear materials savings.); and,

12. If appropriate, the due date of the Phase 2/6.2 study, allowing sufficient time for (1) the DOE laboratories to assimilate the Phase 1/6.1 weapon conception information before the first Phase 2/6.2 study meeting (minimum of about one month), and (2) inter-office coordination and completion of the report after the final Phase 2/6.2 study meeting (usually about one and one-half months).

E4.A3. ATTACHMENT 3 TO ENCLOSURE 4
FORMAT AND CONTENT OF A PHASE 2/6.2 REPORT

1. The Phase 2/6.2 report shall adhere generally to the following format:

- 1.1. Objectives
- 1.2. References
- 1.3. Background Information
- 1.4. Facts Bearing on the Problem
- 1.5. Weapon Discussion
- 1.6. Compatibility of Weapon with Weapon System
- 1.7. Environmental Effects Assessment
- 1.8. Legal Review (if required)
- 1.9. Conclusions
- 1.10. Recommendations

2. Phase 2/6.2 reports should provide answers to the following questions:

2.1. What nuclear devices in production or under development (for new weapons programs) or previously developed sustainment concepts (for sustainment programs) appear to meet the requirement? What are the advantages and disadvantages of each? If no qualified devices or sustainment concepts are under development or in production, what are the characteristics of conceivable weapons or sustainment concepts that would meet this requirement?

2.2. Considering only the development of this particular weapon or sustainment concept, and without regard to other programs that might be conducted concurrently, what is the estimated length of time required for development after the Department of Defense requests commencement of a Phase 3/6.3 development engineering project?

2.3. In the context of the overall nuclear weapons program, what time scales might be expected for development after Phase 3/6.3 authorization during the course of a normal program? What technical development problems would be involved if the time scales were significantly decreased?

2.4. What development problems can be foreseen that appear difficult to solve? Do any problems require development effort on a scale that is greater or less than normal?

2.5. What special training, operational, or logistical problems are foreseen concerning the weapon or sustainment concept that should be considered for Phase 3/6.3 development engineering?

2.6. What, if any, additional experimental or theoretical investigation is required to establish feasibility?

2.7. What is the technical evaluation and/or recommendation made by the DOE representatives concerning nuclear testing prior to weaponizing the device for stockpile?

3. Although the DOE will provide more detailed information in its assessment of its Major Impact Report (MIR), the DOE report may not be available for some time after the Phase 2/6.2 study is complete. Therefore, the following questions should also be answered in the Phase 2/6.2 report. (The information may be in a preliminary form with appropriate disclaimer by the DOE's study participants if necessary to prevent delay in completion and forwarding of the study to the interested DoD Components. In any event, the forwarding of the study shall not be delayed while awaiting DOE completion of the MIR.):

3.1. What possible technical or economic advantages or resource savings would accrue from reasonable weapon/weapon system tradeoffs and changes in the requirements stated in the authorization for the Phase 2/6.2 study? What effects would these changes have on the current operation or orderly development of the delivery system?

3.2. What is the quantity of new or reprocessed nuclear materials required for the proposed device or sustainment concept? Will the number of weapons desired present any predictable problems in providing the necessary nuclear materials?

3.3. If the stated time scales of paragraph 2.3., above, are to be met, what would be the estimated impact, if any, on other authorized DoD programs that would be concurrently supported by DOE?

E5. ENCLOSURE 5

MILESTONE DECISION PROGRAM REVIEWS

E5.1.1. Milestone 0/I: Approval to Begin a New Program. The Milestone 0/I review is conducted after validation of the mission need (by the Joint Requirements Oversight Council (JROC) for a DoD ACATI program), and completion of Phase 1/6.1: Conception. The MRB shall review the Mission Needs Statement (MNS), possible materiel alternatives, and results of the Conception studies to determine if entry into Phase 2/6.2: Determination of Feasibility and Responsibility is warranted.

E5.1.1.1. At Milestone 0/I, the MDA shall approve the following:

E5.1.1.1.1. Acquisition strategy;

E5.1.1.1.2. Acquisition Program Baseline (APB) (for CATI), including Cost as an Independent Variable (CAIV)-based objectives, and,

E5.1.1.1.3. Exit criteria.

E5.1.2. Milestone II: Approval to Enter Development Engineering. The purpose of the Milestone II decision point is to determine if the results of Phase 2/6.2 and Phase 2A/6.2A warrant continuation of the program, and to approve entry into Phase 3/6.3: Development Engineering.

E5.1.2.1. At this milestone, the MDA shall approve the following:

E5.1.2.1.1. Acquisition strategy;

E5.1.2.1.2. APB (for CATI), including CAIV-based objectives;

E5.1.2.1.3. MCs and STS for transmittal to DOE with the Phase 3/6.3 request; and

E5.1.2.1.4. Exit criteria.

E5.1.3. Milestone III: Approval to Enter Full-Scale Production. The purpose of the Milestone III decision point is to review the results of evaluations conducted under Phase 5/6.5: First Production and to determine if entrance into Phase 6/6.6 Full-Scale Production is warranted.

E5.1.3.1. At this milestone, the MDA shall approve the following:

E5.1.3.1.1. Acquisition strategy,

E5.1.3.1.2. APB (for CATI), including CAIV-based objectives,

E5.1.3.1.3. Exit criteria, if appropriate, and

E5.1.3.1.4. Provisions for evaluation of post-deployment performance.

E5.1.4. Exit Criteria. MDAs shall use exit criteria to establish milestone goals for nuclear weapons development and sustainment programs. At each milestone review, the PM shall propose appropriate exit criteria. The MDA shall approve the exit criteria. Exit criteria are normally selected to track progress in important technical, schedule, or management risk areas. The exit criteria shall serve as gates that, when successfully passed or exited, demonstrate that the program is on track to achieve its final program goals and should be allowed to continue with additional activities within an acquisition phase or be considered for continuation into the next acquisition phase. Exit criteria are some level of demonstrated performance outcome, the accomplishment of some process at some level of efficiency, successful accomplishment of some event, or some other criterion that indicates that aspect of the program is progressing satisfactorily. Exit criteria are documented in the acquisition decision memorandum and their status shall be periodically reported to the MDA.

E5.1.5. Defense Research Papers. A defense research facility is a DoD facility that performs or contracts for the performance of basic research; or applied research known as exploratory development. In accordance with DoD 5000.2-R (reference (c)), the MDA shall, at each program decision, consider:

E5.1.5.1. Any position paper prepared by a defense research facility on a technological issue relating to the major weapon being reviewed; and

E5.1.5.2. Any technological assessment made by a defense research facility.

E6. ENCLOSURE 6

PROJECT OFFICERS GROUP PROCEDURES

E6.1.1. Purpose. This enclosure provides detailed procedures and responsibilities for forming Project Officer Groups (POGs) and conducting POG business.

E6.1.2. Definitions:

E6.1.2.1. Cognizant Military Department. The Military Department designated by an MDA to lead the project for the Department of Defense.

E6.1.2.2. Joint Integrated Project Plan (JIPP). A coordinating document prepared early in Phase 3/6.3 of a nuclear weapon development or sustainment project by the Project Officers. This summary shall highlight significant project milestones, information requirements, and decision points. It shall outline the interfaces and agreements between DOE and DoD development and production programs, provide a means to follow DoD and DOE progress, and give visibility to issues requiring prompt resolution. The JIPP should be brief and concise to aid senior managers to easily review the project. Graphical presentation is encouraged. The JIPP shall be amended and republished as necessary to reflect changes in development, production, or deployment planning. The JIPP shall be prepared and distributed by the Lead Project Officer using input from the various member organizations.

E6.1.2.3. Lead Project Officer (LPO). The Project Officer responsible for coordinating the efforts of other Project Officers for nuclear weapons projects.

E6.1.2.4. Member Organization. An organization, Agency, or office that designates a Project Officer for nuclear weapons projects.

E6.1.2.5. Nuclear Weapons Development Project Officers: Persons assigned in accordance with the provisions of paragraph E6.1.4. to coordinate the development of nuclear weapons, and to ensure that the compatibility across the DOE-DoD weapon interface is maintained throughout the stockpile life of the weapon. These persons are herein referred to simply as Project Officers.

E6.1.2.6. Project Officer Meeting (POM). A meeting of Project Officers to coordinate nuclear weapons projects. Representatives from other organizations that have an interest in the project may attend to provide technical assistance and support

E6.1.3. Responsibilities

E6.1.3.1. The Cognizant Military Department shall:

E6.1.3.1.1. Provide consolidated guidance to the DOE within the framework of, but not limited to, approved Military Characteristics (MCs) and Stockpile-to-Target-Sequence (STS).

E6.1.3.1.2. Conclude an agreement with the DOE on the division of responsibilities for each new development/major sustainment project.

E6.1.3.1.3. Assign an LPO for each nuclear weapon development/sustainment project.

E6.1.3.1.4. Submit inter-Service conflicts to the Vice Chairman of the Joint Chiefs of Staff, and the USD(AT&L); and submit DoD-DOE conflicts to the NWC if the conflicts cannot be resolved at lower levels.

E6.1.3.2. Other Military Departments involved in a project shall assign project officers to be their spokesperson (see subparagraph E6.1.4.2.).

E6.1.3.3. The Defense Threat Reduction Agency (DTRA). Consistent with its responsibilities under DoD Directive 5105.62 (reference (k)), DTRA shall assign a nonvoting representative to the POG for each nuclear weapon development project to provide the LPO with technical, operational and logistical support, as required (see subparagraph E6.1.4.5.).

E6.1.3.4. The Project Officers Group shall provide a forum for the mutual development and transmission of information describing a new weapon or sustainment activity in progressive stages.

E6.1.3.4.1. Project Officers shall have authority vested in them by their parent organizations to carry out the assigned responsibilities of those organizations as specified herein. They shall act as points of contact for their Agencies in coordinating the development/sustainment of nuclear weapons and in assuring compatibility of associated weapon interfaces. The assignment of Project Officers does not alter the normal functions and responsibilities of the Agencies or Services involved.

E6.1.3.4.2. The functions of Project Officer Meetings are:

E6.1.3.4.2.1. To coordinate the research, development, test, and evaluation activities performed by the Services and the DOE on joint DOE-DoD nuclear weapons development or sustainment projects.

E6.1.3.4.2.2. To give visibility to issues affecting safety, cost, performance, or other significant matters, which cannot be promptly resolved at POM level.

E6.1.3.4.2.3. To make technological tradeoff decisions during the program that do not significantly change the MCs or acceptability of the weapon, do not exceed program limits set by the Department of Defense/Services and DOE, and remain below threshold program guidance issued by the ATSD(NCB).

E6.1.3.4.2.3.1. Any proposed change to a weapon resulting from any work authorized under subparagraph E6.1.3.4.2.3. must be approved in accordance with guidelines issued by the ATSD(NCB) prior to making any changes to a weapon. The intent of subparagraph E6.1.3.4.2.2. and this provision is to provide for change control while freeing the POG to assess problems, analyze alternatives, eliminate infeasible alternatives, prepare and present a reasonable selection of viable alternatives, and make recommendations to the MRB.

E6.1.3.4.2.3.2. The POG shall notify the Services and the NWC through meeting minutes of interpretations of the MCs and of minor changes made to them as a result of POM decisions authorized by subparagraph E6.1.3.4.2.2., and to recommend significant changes to MCs for approval through the appropriate MDA to the appropriate MRB.

E6.1.4. Project Officer Assignments. Project Officer assignment procedures given below are of a guideline nature intended to provide information on assignment practices normally followed:

E6.1.4.1. DOE and National Laboratories. The Manager, DOE Albuquerque Operations Office; the Director, Los Alamos National Laboratory; the President, Sandia National Laboratories; and the Director, Lawrence Livermore National Laboratory normally each appoint a Project Officer, as appropriate. Sandia National Laboratories, Albuquerque, and Sandia National Laboratories, Livermore, may each be represented by a Project Officer when both are involved in the same development project.

E6.1.4.2. Military Services. The Military Services normally appoint Project Officers as follows:

E6.1.4.2.1. U.S. Army:

E6.1.4.2.1.1. U.S. Army Materiel Command (AMC).

E6.1.4.2.1.2. U.S. Army Training and Doctrine Command (USATRADOC).

E6.1.4.2.1.3. Other USA organizations or contractors as designated by the U.S. Army Materiel Command.

E6.1.4.2.2. U.S. Navy:

E6.1.4.2.2.1. Strategic Systems Programs (SSP).

E6.1.4.2.2.2. Other USN organizations or contractors as designated by the Assistant Secretary of the Navy (Research, Development and Acquisition) (ASN(RD&A)).

E6.1.4.2.3. U.S. Air Force:

E6.1.4.2.3.1. Air Force Nuclear Weapons and Counterproliferation Directorate (AF/XON).

E6.1.4.2.3.2. Air Force Materiel Command (AFMC).

E6.1.4.2.3.3. Other USAF organizations or contractors as designated by AF/XON or AFMC.

E6.1.4.2.4. The Military Service Project Officer appointments outlined above apply when a Service shares directly in development responsibilities for a project. When a Military Service does not share in the responsibility for a project development but has an interest in it, that Military Service may have a Project Officer or representative if it desires.

E6.1.4.3. When a Unified or Specified Command shares in the responsibility for a project development or has an interest in it, that Command may have a Project Officer or representative if it desires.

E6.1.4.4. The total number of Project Officers assigned by the Military Services and the DOE for a specific interface development project should not normally exceed five each.

E6.1.4.5. Representatives of the Defense Threat Reduction Agency (DTRA), at its discretion, may participate at POMs and other appropriate meetings as follows:

E6.1.4.5.1. Monitor the development project for DTRA and provide technical assistance and support.

E6.1.4.5.2. Provide technical assistance and support related to nuclear weapon safety requirements within the safety subcommittee.

E6.1.4.6. The Cognizant Military Department, as designated by the MDA, shall as soon as practicable designate an LPO for a weapon development project and announce his name to appropriate Agencies. The LPO should hold a rank or equivalent civilian rating of a field grade officer (or higher if necessary to be consistent with the organizational structure and specific duties assigned by the Cognizant Military Department).

E6.1.4.7. Designations of Project Officers and changes to these designations shall be made in writing by member organizations to the LPO. There shall be no regular alternate Project Officers; however, an organization may, with prior notification to the LPO, appoint an alternate to attend a particular Project Officer Meeting.

E6.1.4.8. To ensure continued points of contact after the development phase is completed, Project Officers should be provided throughout the operational life of the weapon.

E6.1.5. Duties of Project Officers. Project Officers shall:

E6.1.5.1. Coordinate joint efforts in DOE-DoD nuclear weapons programs.

E6.1.5.2. Coordinate interface matters between the DOE-developed components and the military application thereof, including coordination to ensure that interface control documents are prepared, maintained, and approved.

E6.1.5.3. Coordinate investigations concerning weapon design tradeoffs as they affect weapon capability, reliability, safety, maintainability, testability, vulnerability, costs, etc.

E6.1.5.4. Coordinate required changes and updates of the MCs and STS.

E6.1.5.5. Coordinate joint development test programs.

E6.1.5.6. Ensure timely exchange of information.

E6.1.6. Additional Duties of LPOs. LPOs shall additionally:

E6.1.6.1. Request designation of Project Officers by member organizations and representatives by other participating organizations.

E6.1.6.2. Ensure that all member and representative organizations are advised of names of currently assigned Project Officers and representatives.

E6.1.6.3. Provide an agenda to the member organizations in sufficient time prior to a meeting so that Project Officers may obtain, prepare, and provide adequate Service or Agency positions. Copies shall also be provided to representative organizations, Service and DOE headquarters, and the ATSD(NCB).

E6.1.6.4. Act as, or designate, the Chairman of Project Officer Meetings.

E6.1.6.5. Be responsible for coordination of project development and sustainment efforts covered by this Instruction, ensuring that all member organizations are given an opportunity to state their positions. This coordination effort shall include the preparation of a JIPP. Progress toward milestones in the JIPP and issues that affect efficient, safe, and economical development/production/ deployment shall be made a matter of record at Project Officer Meetings.

E6.1.6.6. Forward recommended changes to MCs through Service channels and the MDA to the MRB. Recommendations shall include rationale that makes the changes desirable (e.g., tradeoff benefits, new information, etc.). Recommendations shall be made a matter of record in the proceedings of Project Officer Meetings.

E6.1.6.7. Distribute records of proceedings of Project Officer Meetings within 20 days after each meeting. Distribution of the POM records and the JIPP and amendments shall include member and representative organizations, Service and DOE headquarters, and the ATSD(NCB).

E6.1.7. Administrative Procedures

E6.1.7.1. The Project Officers assigned for a particular weapon project shall hold meetings at the call of the LPO as required to discuss points of consideration that cannot be adequately handled in day-to-day liaison. Member organizations may request the LPO to call meetings as considered necessary.

E6.1.7.2. Subcommittees necessary to carry out Project Officer functions shall be organized by the LPO to meet the particular needs of the project. However, a safety subcommittee shall be established for each project. The safety subcommittee shall ensure that weapon and system safety analysis includes identification of all

possible power sources and evaluation of the response of the weapon/weapon system to all credible normal/abnormal environments and combinations thereof.

E6.1.7.3. The Project Officers for a particular development/sustainment program shall, except as otherwise provided for in this memorandum, establish operating procedures for the conduct of their meetings.

E6.1.7.4. The number of representatives attending a Project Officer Meeting shall be held to a minimum consistent with the proper conduct of the business of the meeting.

E6.1.7.5. The Project Officers assigned for a particular weapon project shall be collectively associated with that project by reference to them as the "(Weapon Project) Project Officers." Typical variations in the titles of these groups shall be required to distinguish their function as follows:

E6.1.7.5.1. "BXX Project Officers": The Project Officers assigned to coordinate the development of nuclear bombs.

E6.1.7.5.2. "F-X, B-XX, etc., Project Officers": The Project Officers assigned to coordinate the aircraft interfaces with nuclear weapons and assure interface compatibility with the nuclear weapons.

E6.1.7.5.3. "XXXX, XXX, etc., Project Officers": The Project Officers assigned to coordinate the design and development of special equipment or systems. For example, project officers assigned to coordinate the development of Aircraft Monitor and Control Systems would be known as "AMAC Project Officers".

E6.1.7.5.4. "WXX/MK-XX, WXX/XXXX, etc., Project Officers": The Project Officers assigned to coordinate the development of nuclear weapons, missiles, projectiles, atomic demolition munitions, etc., and the interfaces with missile systems, reentry vehicles/bodies, etc.

E6.1.7.5.5. The project officers meeting shall be identified similarly as WXX/XXX Project Officer Meeting (POM). The meetings may be further identified by a calendar year consecutive numbering system, e.g., B61 POM 74-1, 74-2, 74-3, etc.

E7. ENCLOSURE 7

DESIGN REVIEW AND ACCEPTANCE GROUP (DRAAG) RESPONSIBILITIES AND PROCEDURES FOR NUCLEAR WEAPONS DESIGN REVIEWS AND STANDARDIZATION

E7.1.1. Purpose. This enclosure provides the responsibility, representation and procedures for forming and conducting Design Review And Acceptance Groups (DRAAGs).

E7.1.2. Responsibility. A DRAAG shall provide an independent review of the proposed Department of Energy (DOE) design of each nuclear weapon to determine the compliance of the design with requirements specified by the Military Characteristics (MCs) and Stockpile-to-Target Sequence (STS). In conducting this review of the weapons design, the DRAAG shall act on behalf of the ATSD(NCB), the Military Departments, the Milestone Decision Authority (MDA), and other interested DoD Components. Based upon its review, the DRAAG shall present findings and recommendations to the Cognizant Military Department designated in the DoD Phase 3/6.3 request. Such findings and recommendations shall provide the basis for appropriate action to include standardization/acceptance action for each nuclear weapon.

E7.1.3. Representation. A DRAAG for each nuclear weapon under review shall consist of a chairman and three principal members. The principals shall be in the rank of field grade or equivalent, selected, one by each Military Department (Army, Navy and Air Force). A chairman, preferably of Colonel or equivalent rank, shall be designated by the Cognizant Military Department. Each of the principals may invite representatives from interested commands as consultants to the group. The chairman shall arrange for such participation by the DOE and its laboratories, the Defense Threat Reduction Agency, and other technical consultants as may be necessary to assure a comprehensive review of the weapon design.

E7.1.4. Procedures. A DRAAG shall review the proposed design of each nuclear weapon and of each CAT I or CAT II-level sustainment project. The purpose of such reviews shall be to determine compliance of the design with the approved MCs as augmented by the STS and to comment concerning probable acceptability of the design to the Department of Defense.

E7.1.4.1. A DRAAG shall meet to review the weapon design as soon as practicable but not later than eight weeks after the publication of each draft development report by the DOE. A DRAAG meeting shall also be called by the

Chairman within six weeks after the request of any principal to review design changes made subsequent to the review of the FWDR or after a request from the DOE for such a design review. It is desirable that DRAAG meetings are convened expeditiously. Ideally, first production (Phase 5/6.5) terminates with Department of Defense's formal standardization/acceptance action on the nuclear weapon. This means that the DRAAG review of the DOE FWDR (or final addendum to the FWDR) should be complete and available to the Cognizant Military Department prior to the decision to proceed with full-scale production (Phase 6/6.6).

E7.1.4.2. The principals shall perform necessary coordination and obtain comments from within their respective organizations prior to a formal DRAAG meeting and submit comments to the chairman prior to the meeting.

E7.1.4.3. The DRAAG shall meet wherever deemed appropriate and at the chairman's call. Agenda and detailed procedures and schedules for the conduct of each review shall be prescribed by the chairman.

E7.1.4.4. Subsequent to each DRAAG review of a DOE development report, the chairman shall forward to the Cognizant Military Department the proceedings of the review to include findings and recommendations of the DRAAG as to compliance of the design with the MCs and STS and the acceptability of the design to the Department of Defense. The DRAAG chairman shall not formally notify the DOE design laboratories or DOE Albuquerque Operations Office concerning the acceptability of the design.

E7.1.4.5. The Cognizant Military Department, in coordination with the other interested Departments and the Joint Staff, shall review the DRAAG proceedings. When the DRAAG has acted on a Preliminary Weapon Development Report (PWDR) for a new weapon development (or a draft addendum to the FWDR for a sustainment activity), the Cognizant Military Department shall forward a letter to the DOE, through the NWC, transmitting the DRAAG proceedings. The Cognizant Military Department shall make comments and recommendations appropriate to the information contained in the DRAAG proceedings and comment on the probable acceptability of the design to the Department of Defense. The Cognizant Military Department shall provide information copies of the letter to OSD offices having responsibilities relating to nuclear weapons programs, and to the other Military Departments.

E7.1.4.6. When the DRAAG has acted on an Interim Weapon Development Report (IWDR) or the FWDR for a new weapon development (or a final addendum to the FWDR for a sustainment activity), the Cognizant Military Department, in coordination with the other interested Military Departments and the Joint Staff, shall prepare a letter for signature by the MDA, commenting on the acceptability of the

design to the Department of Defense. The proposed letter shall list specific aspects of the design that fail to satisfy fully the MCs and STS, and shall indicate which aspects, if any, should be considered a basis for delaying First Production (Phase 5/6.5) or Full-Scale Production (Phase 6/6.6) as appropriate. When the DRAAG action pertains to an FWDR or final addendum to the FWDR, the letter shall also state whether the weapon is to be accepted as a limited or standard stockpile item. The Cognizant Military Department shall forward the proposed letter to the MDA for approval and transmittal to the DOE through the NWC, and shall forward information copies to OSD offices having responsibilities relating to nuclear weapons programs and to the other Military Departments.

E7.1.4.7. Following the DRAAG review of the final development report, the Cognizant Military Department may recommend that the item be accepted as a limited stockpile item, and that significant development or sustainment effort be continued by the DOE before acceptance as a standard stockpile item. In such cases, the Service recommendation shall be supported by a Cost as an Independent Variable (CAIV) Analysis of Alternatives (AoA) in accordance with DoD 5000.2-R (reference (c)). The Cognizant Military Department shall request information concerning costs, impacts, and other information required for the evaluation of alternate courses of action from the DOE. For example, information needed for an evaluation could include the cost and time to develop, test, and procure a more reliable fuzing device; costs and time to retrofit the stockpile to include costs to ship weapons back to an DOE retrofit facility; and operational impacts of retrofitting or not retrofitting, among other concerns.

E8. ENCLOSURE 8

PERFORMANCE REQUIREMENTS, ACCEPTABILITY, AND REVIEWS

E8.1.1. Military Characteristics (MCs) and Stockpile-to-Target-Sequences (STSs)

E8.1.1.1. The MCs define the DoD requirements for a specific nuclear weapon. MCs begin as a statement of desired DoD performance objectives and become design requirements after formal DOE acceptance.

E8.1.1.2. The STS supplements the MCs by describing the logistical and operational concepts for the weapon and the resulting physical environments that the nuclear weapon can encounter. The STS is developed through an evolutionary process beginning in Phase 1/6.1 of a weapon development program and is a "living" document that is reviewed continuously and revised as required throughout the life of a nuclear weapon project.

E8.1.1.3. Format and content of the MCs and STS shall be in accordance with "Procedures for Preparation and Use of Military Characteristics and Stockpile-to-Target Sequences for Nuclear Weapons" (reference (1)), updated by the guidance in this Instruction to account for sustainment activities.

E8.1.1.4. Preliminary draft MCs shall be included in the Phase 1/6.1 report for any Phase 1/6.1 study that expects the modification of an existing nuclear weapon or the development of a new nuclear weapon. These preliminary, draft MCs may be partially in outline form and may indicate sections to be determined. For sustainment programs not requiring a change to the MCs and STS, the Phase 1/6.1 report shall contain a statement that existing MCs and STS documents shall be used.

E8.1.1.5. The Cognizant Military Department shall prepare draft MCs and a draft STS and shall distribute them during the Phase 2/6.2 study to all DoD Components concerned, the DOE, and the appropriate MRB. Draft MCs and STS, together with any comments of the DOE or any DoD Component, shall be included in the Phase 2/6.2 report. For sustainment programs not requiring a change to the MCs and STS, the Phase 2/6.2 report shall contain a statement that existing MCs and STS documents shall be used.

E8.1.1.6. During preparation of a Phase 3/6.3 request, the Cognizant Military Department shall solicit comments on the draft MCs and STS and shall resolve differences so that draft MCs and STS may be forwarded with the supporting material

provided to MDA with the Phase 3/6.3 request. The Cognizant Military Department shall ensure that this draft STS represents the coordinated technical requirements both common and unique of all interested Departments, the JCS and the DOE. Draft MCs and STS shall be modified as considered appropriate by the MDA, and approved by the MDA after consultation with the MRB prior to entry into Phase 3/6.3.

E8.1.1.7. The MDA shall forward the approved MCs and STS to the DOE through the NWC with the request for a joint Phase 3/6.3 project. For sustainment programs not requiring a change to the MCs and STS, the Phase 3/6.3 request shall contain a statement that existing MCs and STS documents shall be used.

E8.1.1.8. Approved MCs do not become design requirements until after formal DOE acceptance.

E8.1.1.9. Proposed changes to approved MCs shall be coordinated by the POG with the DOE and DoD Components concerned as a part of each sustainment project, as described in subparagraphs E8.1.1.4. - E8.1.1.7., above.

E8.1.1.10. Approved changes to the MCs do not become design requirements until after formal DOE acceptance.

E8.1.1.11. DTRA, acting in support of the NWC, shall publish and distribute all approved MCs and approved/accepted changes. At least every five years, or more frequently if deemed necessary by the NWC, DTRA shall publish and distribute to all participating DoD Components an index of all current MCs.

E8.1.1.12. It is recognized that the STS may not be fully complete and definitive at the time of the Phase 3/6.3 authorization and that subsequent revisions may be necessary. Any changes to the STS shall be coordinated by the POG with the DOE and concerned DoD Components. However, no revisions of the STS shall impose requirements that effectively increase the cost of the weapon over the level approved by MDA in the Phase 3/6.3 decision without specific approval by the MDA. Furthermore, any changes to the STS that may delay an initial operational capability, or that require a change to a weapon subsystem or component shall be forwarded to the MRB for review and approval. Such changes shall require specific approval by the MDA after consultation with the MRB before publication. Changes to the STS not meeting the criteria outlined in this paragraph shall be approved by the POG.

E8.1.1.13. Approved changes to the STS shall be published by the Cognizant Military Department.

E8.1.2. Reviews

E8.1.2.1. The NWC shall periodically review each CAT I nuclear weapon program during Phase 3/6.3. The MRB shall periodically review each CAT II nuclear weapon program during Phase 3/6.3, and each CAT III program as deemed necessary. These reviews shall consider the impact of the MCs and the STS on the design/sustainment effort and the resources needed to meet various design requirements and goals. Specific guidance regarding the frequency of review for CAT I and II programs shall be issued by ATSD(NCB). Until such guidance is issued, at least two reviews shall be held for new weapons programs, and as many as deemed necessary by the NWC for sustainment programs.

E8.1.2.2. CAT I and II nuclear weapon development or sustainment designs proposed by DOE and provided in the form of development reports, shall be reviewed by DRAAG (see enclosure 7). The DRAAG shall be composed of representatives of the Military Departments and chaired by the Cognizant Military Department. DTRA shall assign a nonvoting representative to the DRAAG to provide technical assistance and support.

E8.1.2.2.1. The DRAAG review(s) shall determine whether the design complies with requirements specified in the approved MCs and the STS.

E8.1.2.2.2. Additional details of DRAAG procedures are included in enclosure 7.