

U.S. Department of Energy
Washington, D.C.

ORDER

DOE 5610.11

10-10-90

SUBJECT: NUCLEAR EXPLOSIVE SAFETY

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1. PURPOSE. To establish the Department of Energy (DOE) policy, procedures, authorities, and responsibilities for assuring the safe conduct of nuclear explosive activities under the Department's Nuclear Explosive and Weapon Safety Program.
 2. CANCELLATIONS. DOE 5610.3, PROGRAM TO PREVENT ACCIDENTAL OR UNAUTHORIZED NUCLEAR EXPLOSIVE DETONATIONS, of 12-18-80, and those portions of DOE 5610.1, PACKAGING AND TRANSPORTING OF NUCLEAR EXPLOSIVES, NUCLEAR COMPONENTS, AND SPECIAL ASSEMBLIES, of 9-11-79, which address nuclear explosives.
 3. SCOPE. This Order applies to DOE Headquarters and field elements and its contractors and subcontractors that conduct activities involving nuclear explosive in support of the nuclear weapons program as provided by law and/or contract and as implemented by the appropriate contracting officer.
 4. APPLICABILITY. This Order applies to all activities and operations involving nuclear explosives and nuclear weapons conducted under the Department's nuclear weapon program.
 5. REFERENCES.
 - a. DOE 5000.3A, OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION, of 5-30-90, which sets forth the policy, assigns responsibility, and provides criteria and instructions for reporting unusual occurrences that have programmatic significance at DOE operations.
 - b. DOE 5484.1, ENVIRONMENTAL PROTECTION, SAFETY, AND HEALTH PROTECTION INFORMATION REPORTING REQUIREMENTS, of 2-24-81, which provides for reporting of information having environmental protection, safety, or health protection significance for Departmental operations; for investigation of occurrences; and effluent and environmental monitoring program requirements.
 - c. DOE 5500.2A, EMERGENCY NOTIFICATION, REPORTING, AND RESPONSE LEVELS, of 4-13-88, which provides for an emergency notification and reporting system and establishes emergency response levels and associated response actions.

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- d. DOE 5500.3, REACTOR AND NONREACTOR NUCLEAR FACILITY EMERGENCY PLANNING, PREPAREDNESS AND RESPONSE PROGRAM FOR DOE OPERATIONS, of 8-13-81, which establishes requirements for site-specific emergency plans and procedures for radiological emergencies in reactors and nonreactor nuclear facilities.
- e. DOE 5610.10, NUCLEAR EXPLOSIVE AND WEAPON SAFETY PROGRAM, of 10-10-90, which establishes DOE policy, objectives, and responsibilities for the DOE nuclear explosive and weapon safety program.
- f. Joint Department of Energy/Department of Defense (DOE/DOD) Technical Publication 20-7, "Nuclear Safety Criteria," of 9-1-86, which contains information concerning safety criteria applicable to transportation, storage, handling, and processing of nuclear weapons and nuclear components.
- g. Joint DOE/DOD Technical Publication 35-51, "General Instructions Applicable to Nuclear Weapons," of 11-27-89, which contains information, specifications, and procedures pertaining to DOE special design ordnance items.
- h. Joint DOE/DOD Technical Publication 45-51, "Transportation of Nuclear Weapons Material, General Shipping and Limited Life Components (LLC)," of 3-16-84, which provides information, instructions, and procedures to be followed for all DOE shipments of nuclear weapons material between DOE and DOD.
- i. Joint DOE/DOD Technical Publication 45-51A, "Transportation of Nuclear Weapons Material (Supplement), Shipping and Identification Data for Stockpile Major Assemblies," of 2-1-80, which contains equipment description, security classification, package dimensions and other data pertinent to shipment of nuclear weapons material to DOE and DOD.
- j. Joint DOE/DOD Technical Publication 45-51D, "Transportation of Nuclear Weapons Material (Supplement), Shipment by Safe-Secure-Trailer (SST)," of 7-14-89, which contains supplemental information for preparation and shipment of nuclear weapons and materials by SST.

- k. Joint DOE/DOD Technical Publication 45-51E, "Transportation of Nuclear Weapons Material (Supplement), Shipment by Railcar," of 12-7-89, which contains information for preparation and shipment of nuclear weapons and materials by rail.
- l. "Mandatory Guidelines for Federal Workplace Drug Testing Programs," issued by the Department of Health and Human Services, 53 CFR 11970 of 4-11-88.
- m. "Highway Safety Programs: Standard for Calibrating Units for Breath Alcohol Testers," issued by National Highway Traffic Safety Administration, 49 CFR 48855 of 12-14-84.

6. DEFINITIONS.

- a. Abnormal Environment. Those environments as defined in a weapon's stockpile-to-target-sequence and military characteristics in which the weapon is not expected to retain full operational reliability. In DOE manufacturing, testing, and transportation operations, abnormal environment means an environment that a nuclear explosive is not expected to experience during operations.
- b. Access. That proximate to a nuclear explosive that affords a person the opportunity to tamper with it or to cause a detonation.
- c. Activate. The actuation of a design safety feature to a position that would permit the transmission of prearming, arming, or firing signals.
- d. Arming. Configuring a nuclear explosive such that a single signal will initiate a nuclear detonation.
- e. Custody. Responsibility for the control of and access to nuclear explosives.
- f. High Explosive Deflagration. A rapid chemical reaction in which the output of heat is sufficient to enable the reaction to proceed and be accelerated without input of heat from another source. Deflagration is a surface phenomenon with the reaction products flowing away from the unreacted material along the surface at subsonic velocity.
- g. High-Explosive Detonation. A violent chemical reaction within a chemical compound or mechanical mixture evolving heat and pressure. A detonation is a reaction that proceeds through the reacted material toward the unreacted material at a supersonic velocity.

- h. Live Pit. A fissile component, or set of fissile components, designed to fit in the central cavity of an implosion system and which if placed therein will create a nuclear explosive.
- i. Main Charge. The high explosive whose explosive energy implodes the pit.
- j. Mock High Explosive. A nondetonable material used to simulate one or more properties of high explosives.
- k. Nuclear Detonation. An energy release through a nuclear process, during a period of time on the order of one microsecond, in an amount equivalent to the energy release by the detonation of four or more pounds of TNT.
- l. Nuclear Explosive. Any assembly containing fissionable and/or fusionable materials and main charge high explosive parts or propellants capable of producing a nuclear detonation (e.g., a nuclear weapon or test device).
- m. Nuclear Explosive Area. Any area that contains a nuclear explosive or the unassembled main charge high explosive parts and pit.
- n. Nuclear Explosive Duty. Duty that requires a DOE or DOE contractor employee to perform hands-on work on a nuclear explosive and/or to have access to and/or control of a nuclear explosive that could allow an individual to cause a detonation.
- o. Nuclear Explosive-Like Assembly (NELA). A nonnuclear assembly that represents a nuclear explosive in its basic configuration (main charge high explosive and pit) and any subsequent level of assembly up to its final configuration, or which represents a weaponized nuclear explosive such as a warhead, bomb, reentry vehicle, or artillery shell. This nonnuclear assembly does not contain an arrangement of high explosive and fissile material capable of producing a nuclear detonation.
- p. Nuclear Explosive Safety Study. A formal DOE process whereby the safety of an operation, including transportation, involving a nuclear explosive is evaluated and documented in a study report.

- q. Nuclear Explosive Safety Survey. A formal DOE process whereby an operation, including transportation, involving a nuclear explosive is evaluated by conducting a comparative analysis of the operation with the nuclear explosive operation evaluated in an existing Nuclear Explosive Safety Study report.
- r. One-point Safe Nuclear Explosive. A nuclear explosive, which in the event of a detonation initiated at any one point in the high explosive system presents no greater probability than one in a million of achieving a nuclear detonation.
- s. Personnel Assurance Program. A program that establishes the requirements and responsibilities for screening, selecting, and continuously evaluating employees being considered for assignment or assigned to nuclear explosive duties.
- t. Positive Measures Design features, safety rules, procedures, or other controls used individually or collectively to provide nuclear explosive safety. Positive measures are intended to assure a safe response in applicable operations and be controllable. Some examples of positive measures are strong-link switches; other safety devices; administrative procedures and controls; general and specific nuclear explosive safety rules; design control of electrical equipment and mechanical tooling; and physical, electrical, and mechanical restraints incorporated in facilities and transport equipment.
- u. Preaming. Configuring a nuclear explosive in such a manner that with proper arming and firing signals the nuclear explosive could be detonated.
- v. Reader Worker Procedure and Check-Off. A procedure used in operations involving nuclear explosive duties under which one person reads the description of the operation to be performed, the operation is performed, and the reader checks off on a list that the operation has been performed.
- w. Safe-Secure Railcar (SSR). A specially designed railcar that has protective and deterrent systems and is used in a special train to transport nuclear explosives or special nuclear material.
- x. Safe-Secure Trailer (SST). A specially designed semi-trailer that has protective and deterrent systems that is used with a special tractor to transport nuclear explosives or special nuclear material.

7. POLICY. Nuclear explosive activities and operations shall be comprehensively reviewed, evaluated, and documented to enable informed management decisions to implement the overall objectives of the Department's nuclear explosives and weapons safety program.
8. RESPONSIBILITIES AND AUTHORITIES. Within DOE, safety is a line management responsibility. Programmatic responsibilities covered by this Order are as follows:
 - a. Assistant Secretary for Defense Programs (DP-1) is responsible for:
 - (1) Reviewing Operations Office Manager's decisions to not grant Personnel Assurance Program certifications, or to revoke certifications, and issuing a decision to grant or reinstate certifications.
 - (2) Approving any requests for deviations from general nuclear explosive safety rules when determined appropriate.
 - (3) Approving Nuclear Explosive Safety Studies of a nuclear explosive subsequently determined to be non-one-point safe after a previous certification of one-point safe.
 - b. Deputy Assistant Secretary for Military Application (DP-20) is responsible for:
 - (1) Implementing the overall requirements of this Order.
 - (2) Approving Nuclear Explosive Safety Study Reports.
 - (3) Conducting appraisals of field activities and assuring that corrective actions are taken.
 - c. Deputy Assistant Secretary for Security Affairs (DP-30) is responsible for establishing safeguards and security policies, standards, and programs for preventing unauthorized access to nuclear explosives in DOE custody.
 - d. Managers of the Operations Offices are responsible for implementing the provisions of this Order in their respective areas of responsibility and authority to include:

- (1) Assuring that responsibilities and authorities are clearly defined and delegated at appropriate management and supervisory levels.
 - (2) Assuring that, prior to the beginning of any operation that has nuclear detonation potential, a nuclear explosive safety study and/or survey has been conducted and approved. Safety study reports are to be submitted to DP-20 for approval.
 - (3) Submitting Nuclear Explosive Safety Study Reports to DP-20 for approval.
 - (4) Approving Nuclear Explosive Safety Survey reports.
 - (5) Appointing a Chairperson, members, and technical advisors to the Nuclear Explosive Safety Study Group (NESSG) in accordance with procedures set forth in this Order.
 - (6) Assuring that each NESSG has available for evaluation the technical data, safety analysis, operating procedures, proposed safety rules, immediate-action procedures, pertinent approved nuclear explosive safety studies, and security measures applicable to the nuclear explosive safety of the operation under consideration.
 - (7) Assuring that NESSG recommendations, safety rules, and immediate-action procedures that have been approved are being effectively implemented.
 - (8) Implementing the criteria for permanent marking instructions and NELA requirements as established by the Manager, Albuquerque Operations Office.
 - (9) Conducting appraisals of activities under their cognizance and assuring corrective actions are taken as required.
 - (10) Reporting occurrences in accordance with Chapter X of this Order.
- e. Manager, Albuquerque Operations Office. in addition to the responsibilities and authorities in paragraph 8d above, is responsible for establishing the criteria for permanent marking instructions and the nuclear explosive-like assembly (NELA) requirements.

BY ORDER OF THE SECRETARY OF ENERGY:



JIM E. TARRO
Director of Administration and
Human Resource Management

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CHAPTER I
PERSONNEL ASSURANCE PROGRAM

1. GENERAL.

- a. The Personnel Assurance Program (PAP) is designed to provide management guidance in the selection of individuals for assignment to nuclear explosive duties. Individuals selected for assignment to nuclear explosive duties must be certified by the DOE as suitable for such assignment in accordance with the procedures and requirements set forth in this Chapter. PAP certification for assignment to nuclear explosive duties is in addition to meeting all other applicable job-qualification standards.
- b. Failure of an individual to be certified or recertified for assignment to nuclear explosive duties shall not, in itself, reflect on the individual's suitability for assignment to other duties and shall not, in itself, be a cause for punitive measures or adverse reflection on the individual.
- c. Personnel management actions based on the consideration of technical competence and other job-qualification requirements, not related to PAP-requirements, shall not be affected by the requirements of this Chapter.
- d. Managers of Operations Offices assigned PAP functions may delegate to the Deputy Manager, Assistant Managers, Division Directors, and/or Area Office Managers authority to perform PAP functions as deemed appropriate except for those functions set forth in paragraphs 3c, 3d, 4c, 4d, 4e, and 5 of this Chapter.
- e. Managers of operations offices or their delegates will maintain PAP records documenting the certification that individuals are properly qualified and trained to perform nuclear explosive duties as indicated in paragraph 9 of this Chapter

2. REQUIREMENTS. DOE or DOE contractor employees to be assigned nuclear explosive duties must be certified in the PAP by the DOE, and recertified annually in accordance with the procedures set forth in this Chapter. Individuals to be certified or recertified shall:

- a. Have a valid DOE "Q" clearance.

- b. Have a signed statement, "Acknowledgment and Agreement to Participate in the Personnel Assurance Program (PAP)." (See Attachment I-1.)
- c. Have a signed statement, "Authorization and Consent to Release Personal Records in Connection with the Personnel Assurance Program (PAP)." (See Attachment I-2.)
- d. Be interviewed and briefed on the importance of the assignment and the nature and objectives of the PAP.
- e. Be reviewed and certified that they have technical and operational qualification, experience, and training to perform specific nuclear explosive operation assignments.
- f. Undergo a medical assessment initially, annually thereafter for recertification, and as may be required by the Site Occupational Medical Director (SOMD). The assessment shall include:
 - (1) A medical examination.
 - (a) Individuals shall be given a comprehensive medical examination with appropriate laboratory tests and other procedures to evaluate their physical, mental, emotional, and behavioral status.
 - (b) The purpose of the medical examination is to ensure that an individual does not have a condition that may prevent the individual from performing nuclear explosive duties in a safe and reliable manner.
 - (2) An evaluation of drug abuse.
 - (a) Individuals shall be tested for the use of illegal drugs in accordance with the DOE drug testing program, which incorporates the Department of Health and Human Services "Mandatory Guidelines for Federal Workplace Drug Testing Programs" (53 CFR 11970). Individuals certified under the PAP shall be tested for illegal drugs annually, on random basis. This program shall include unannounced drug testing as well as testing for cause or reasonable suspicion.

- (b) Refusal to submit a urine sample or deception by adulteration, substitution, or other means shall be reason to question the individual's certification or continued certification for nuclear explosive duties. Such individuals shall immediately be suspended from PAP and removed from their nuclear explosive duties pending a review to determine whether continued certification is appropriate.
 - (c) Substances in the drug testing program shall include, as a minimum, cocaine, marijuana, opiates, amphetamines, phencyclidine, and LSD-25 (lysergide or lysergic acid diethyl amide).
 - (d) Admission to, or verification by testing of, use of hallucinogens shall result in the immediate and permanent removal from the PAP and any nuclear explosive duties.
- (3) An evaluation of alcohol abuse.
- (a) When alcohol abuse is suspected, individual shall be examined for evidence for alcohol abuse. Evidence of alcohol abuse is reason to question the individual's certification or continued certification for PAP and shall require further evaluation, which may include psychological assessment.
 - (b) The consumption of alcohol is prohibited within an 8-hour abstinence period preceding any tour of work and during the period of work. Management shall develop procedures that will ensure persons called in to perform an unscheduled working tour are fit to perform the task assigned.
 - (c) In addition to presently authorized alcohol testing within the Department, individuals in the PAP shall be subjected to unannounced tests for alcohol if there is reasonable indication of alcohol use by an individual on the work site.
 - (d) Tests for alcohol must be administered by evidential-grade breath alcohol analysis devices by a brand and model that conforms to National Highway Traffic Safety Administration Standards (49 FR 48855) and to any applicable state statutes.

- (e) An alcohol breath test is positive at or above a blood alcohol concentration (BAC) of 0.04 percent cutoff level. For each screening test, two breath specimens shall be collected from each individual no less than 2 minutes apart and no more than 10 minutes apart. The individual administering the test must be trained and qualified to operate the test device. The test results shall be considered accurate if the result of each measurement is within ± 10 percent of the average of the two measurements. If the two tests do not agree, the breath tests shall be repeated on another evidential-grade breath analysis device. Confirmatory testing is accomplished by repeating the above procedure on another evidential-grade breath analysis device.
- (f) If the alcohol breath tests indicate the individual is positive for a BAC at or above the 0.04 percent cutoff level, the individuals may request a confirmatory blood test at his or her discretion. The confirmation test must be by gas chromatography blood analysis.
- (g) Alcohol breath tests shall be delayed at least 15 minutes if any source of mouth alcohol (e.g., breath fresheners) or any other substances have been ingested that could affect the measurement. The breath specimen taken should come from the end, rather than the beginning of the breath expiration.
- (h) Refusal to submit to an alcohol breath test or deception by adulteration, substitution, or other means shall be reason to question the individual's certification or continued certification for PAP. Such individuals shall immediately be suspended from PAP and be removed from nuclear explosive duties pending a review to determine whether continued certification is appropriate.
- (i) Individuals considered for reinstatement to PAP and subsequent assignments to nuclear explosive duties, following treatment leading to rehabilitation from alcohol abuse, shall be required to undergo follow-up evaluation as prescribed by the SOMD in order to ensure continued rehabilitation.

(4) A psychological assessment.

- (a) The certification and recertification psychological assessments described in this section shall be provided by a designated clinical psychologist approved by the SOMD with the concurrence from EH-43.
- (b) The initial certification psychological assessment shall include:
1) As a minimum, a generally accepted psychological test such as the Minnesota Multiphasic Personality Inventory (MMPI), or the 16 Personality Factors Test (16PF); and 2) a structured interview by the designated clinical psychologist.
- (c) The recertification psychological assessment shall consist of, as a minimum, a structured interview by the designated clinical psychologist.
- (d) For certification, recertification, or possible recertification for cause, the SOMD may require any additional assessment procedures deemed necessary to reach a recommendation on the psychological status of the individual.

3. PAP PROCEDURES FOR DOE EMPLOYEES. Managers of Operations Offices exercising jurisdiction over personnel assignments requiring PAP certification for nuclear explosive shall:

- a. Promulgate instructions for implementing the requirements of the PAP for DOE employees. As a minimum, the procedures shall provide for:
 - (1) Instructing supervisory personnel, medical personnel, and other appropriate personnel in the nature and objectives of the PAP.
 - (2) Supervisory interview of each individual being considered for the PAP and assignment to nuclear explosive duties. The interview will include a briefing on the importance of the nuclear explosive duty assignment and the nature and objectives of the PAP.
 - (3) Assuring that individuals to be certified or recertified in PAP and for assignment to nuclear explosive duties undergo the required medical assessment.

- (4) Assuring that a review of the personnel clearance investigative file, the results of the medical assessment, the supervisory interview, the technical and operational qualifications for nuclear explosive operations, and other available personnel data has been accomplished for each individual being considered for assignment to such duties. These reviews will be documented in accordance with Paragraph 9 of this Chapter. When necessary, appropriate personal information concerning a PAP individual may be exchanged among responsible DOE or DOE contractor officials during the certification, recertification, or recertification process. Information from a personnel security investigative file shall not be shared with a contractor.
- (5) Certifying each individual for PAP and assignment to nuclear explosive duties will be documented in accordance with Paragraph 9 of this Chapter.
- (6) Supervisors of individuals in the PAP and performing nuclear explosive duties to:
 - (a) Perform observation of such individuals to determine suitability for continued assignment to nuclear explosive duties. Behavior such as that indicated in paragraph 4a(5)(a) through (i) of this Chapter indicates possible unsuitability for PAP and should be reported immediately to the next level of supervision and/or to the SOMD.
 - (b) Cause the immediate, temporary removal from nuclear explosive duties of an individual whose suitability for performing such duties is in question. Immediate, temporary removal from nuclear explosive duties requires the supervisor to assure that, as a minimum:
 - 1 The individual be instructed to cease performance of nuclear explosive duties.
 - 2 The individual be escorted from, and prevented from entering or reentering, any area that would afford access to nuclear explosives.

- (c) The PAP certifying official is immediately informed of any immediate, temporary-removal action and reasons therefore. (NOTE: Immediate, temporary removal from nuclear explosive duties does not constitute a determination that the removed individual lacks the emotional or mental stability or physical capability to perform nuclear explosive duties. Such removal does indicate, however, that there is a question as to the individual's suitability, which warrants the temporary removal from nuclear explosive duties pending resolution of the question.)
 - b. Review the circumstances of immediate, temporary removal (except for administrative removal) of an individual from nuclear explosive duties on the basis of PAP considerations.
 - c. Take one of the following actions, after reviewing the circumstances of the immediate, temporary removal:
 - (1) Suspend the individual's PAP certification.
 - (2) If necessary, direct that a medical assessment and/or security evaluation be accomplished.
 - (3) Determine whether certification should be reinstated or revoked using all pertinent data.
 - d. Comply with the certification review procedures established in this Chapter prior to a decision not to certify, not to recertify, or to decertify.
- 4. PAP PROCEDURES FOR DOE CONTRACTOR EMPLOYEES. Managers of Operations Offices exercising administrative jurisdiction over contractors whose scope of work includes nuclear explosive duties subject to the provisions of the PAP shall:
 - a. Promulgate instructions for implementing the requirements of the PAP at contractor facilities. As a minimum, the contractor procedures shall provide for:
 - (1) Instructing supervisory personnel, medical personnel, and other appropriate personnel in the nature and objectives of the PAP.

- (2) Supervisory interview of each individual to be assigned nuclear explosive duties. The interview will include a briefing on the importance of the assignment, PAP requirements, and the nature and objectives of the PAP.
- (3) Assuring that individuals to be certified or recertified in PAP and assignment to nuclear explosive duties undergo the required medical assessment.
- (4) Requesting DOE certification or recertification of a contractor employee when the contractor has determined, on the basis of all information available, that the individual is suitable. The contractor requesting certification or recertification, will assure the PAP certifying official that all PAP certification requirements have been met; or if any requirement has not been met, the contractor will provide any personal data that may have a bearing on the individual's certification or recertification. When necessary, appropriate personal information concerning a PAP individual may be exchanged among responsible DOE or contractor officials during the certification, recertification, or recertification process.
- (5) Designating contractor supervisory personnel responsible for the observation of PAP individuals assigned to nuclear explosive duties to determine their suitability for such duties, and to report to the next level of supervision any observations of behavior that would indicate unsuitability for PAP such as:
 - (a) Indications of deceitful or delinquent behavior.
 - (b) Any overt attempt or implied threat to destroy property or life.
 - (c) Abnormal stress resulting from financial problems, failure to pay debts, indebtedness extended beyond ability to pay, continually overdrawn at bank, etc.
 - (d) Abnormal stress resulting from family situations, such as separation, divorce, or child care problems.
 - (e) Any indication of alcohol or drug problems.
 - (f) Uncontrolled anger or a temper display.

- (g) An abnormal exhibition of hostility, tension, fears, anxiety, excitement, depression, or antagonistic attitude.
 - (h) Suicidal tendencies or an attempted suicide, regardless of how the knowledge was obtained or where the attempt was performed.
 - (i) The making of excessive demands, provoking of friction, or assuming a negative attitude to the extent that it disrupts the activities of the work group.
- (6) The immediate, temporary removal from nuclear explosive duties of an individual whose suitability for performing such duties is in question. Immediate, temporary removal from nuclear explosive duties requires that, as a minimum:
- (a) The individual be instructed to cease performance of nuclear explosive duties.
 - (b) The individual be escorted from, and prevented from entering or reentering, any area which would afford access to nuclear explosives.
- (7) Immediately informing the DOE PAP certifying official of any immediate, temporary-removal action and the reasons therefore. The PAP certifying official will immediately notify the cognizant Operations Office Manager. (NOTE: Immediate, temporary removal from nuclear explosive duties does not constitute a determination that the removed individual lacks the emotional or mental stability or physical capability to perform nuclear explosive duties. Such removal does indicate, however, that there is a question as to the individual's suitability that warrants the removal from nuclear explosive duties pending resolution of the question. Immediate, temporary-removal action will not in itself be cause for loss of pay or other benefits or other changes in employment status.)
- b. Establish procedures for the DOE PAP certifying official to:
- (1) Review a contractor's request for certification or recertification of an individual in the PAP and for assignment to nuclear explosive duties. The Manager will also assure that a review of the individual's personnel clearance investigative file has been accomplished. When necessary, appropriate personal information

concerning a PAP individual may be exchanged among responsible DOE or contractor officials for the certification, recertification, or recertification process.

- (2) Certify and recertify each contractor employee determined to be suitable for the PAP and subsequent nuclear explosive duty assignment.
- c. Review the circumstances concerning the immediate temporary removal of an individual from nuclear explosive duties on the basis of PAP considerations.
- d. Take one of the following actions after reviewing the circumstances of the immediate, temporary removal:
 - (1) Suspend the individual's PAP certification.
 - (2) If necessary, direct that a medical assessment and/or security evaluation be accomplished.
 - (3) Determine whether certification should be reinstated or removed using all pertinent data.
- e. Comply with the certification review procedures established in paragraph 5 below prior to rendering a decision not to certify or to revoke the certification in PAP because the individual is not suitable for assignment to nuclear explosive duties.

5. CERTIFICATION REVIEW PROCEDURES.

- a. The Manager of the Operations Office, prior to rendering a decision not to certify or to revoke the PAP certification of a DOE or contractor employee because the individual is not suitable for assignment to nuclear explosive duties, shall notify the individual in writing:
 - (1) Of all the specific information that raises the question as to suitability.
 - (2) That the individual may comment in writing, under oath or affirmation, to the Manager on the information within 20 working days of receipt of the notification.

- (3) That the individual may indicate to the Manager in writing, within 20 working days of receipt of the notification, that the individual wishes to appear in person before a certification review hearing officer for a review of the information giving rise to the question as to the individual's suitability.
 - (4) That the individual may be represented by counsel of the individual's own choosing and cost, at the review conducted by the hearing officer.
 - (5) That the individual may offer information in support of the claim for suitability for PAP certification or recertification through witnesses and documents at the review conducted by the hearing officer.
 - (6) That, if the individual fails to request a review, a final decision as to suitability shall be based upon the information available to the Manager.
- b. The Manager of the Operations Office, upon receipt of a request from the individual to appear in person before a certification review hearing officer, shall forthwith appoint an impartial certification review hearing officer. The hearing officer shall be a DOE attorney and shall have a DOE "Q" clearance. The Manager shall also appoint a DOE attorney as counsel to the hearing officer to assist in obtaining all evidence bearing on the matter. Counsel will express no opinion to the hearing officer on the merits of the evidence presented during the hearing.
- (1) Counsel will arrange for the appearance of witnesses and will examine and cross-examine witnesses.
 - (2) Counsel will notify the employee in writing, at least 7 working days in advance, of the scheduled place, date, and hour where the review will take place.
- c. The certification review hearing officer shall:
- (1) Conduct the review in an orderly and impartial manner and in accordance with applicable security requirements, with every effort made to protect the interests of the Government and the employee.
 - (2) Present to the employee, through witnesses or documentation, all information that gives rise to the question of the individual's suitability for assignment to nuclear explosive duties.

- (3) Assure that the employee is given full opportunity during the review to refute or mitigate the information which raises the question as to the individual's suitability. The employee shall be permitted to offer information in the individual's own behalf, to call, confront, examine, and cross-examine witnesses and other persons who have made written or oral statements, and to present and examine evidence. The hearing officer may receive and consider an oral or written statement adverse to the employee relating to a controverted issue without affording the employee the opportunity to cross-examine the person making the statement in either of the following circumstances:
- (a) The substance of the statement was contained in the employee's personnel clearance investigative file before the question as to the individual's suitability arose, and the Head of the Federal Department or Agency supplying the statement certifies that the person who furnished the information is a confidential informant who has been engaged in obtaining intelligence information for the Government and the disclosure of the individual's identity would be substantially harmful to the National interest.
- (b) The substance of the statement was contained in the employee's personnel clearance investigative file before the question as to the individual's suitability arose; and the Assistant Secretary for Defense Programs or his special designee for that particular purpose has preliminarily determined, after considering information furnished by the investigative agency as to the reliability of the person and the accuracy of the statement concerned, that the statement concerned appears to be reliable and material; and the Assistant Secretary for Defense Programs or such special designee has determined that failure of the hearing officer to receive and consider such statement would be substantially harmful to the National security and that the person who furnished the information cannot appear to testify 1 due to death, severe illness, or similar cause, in which case the identity of the person and the information to be considered shall be made available to the employee, or 2 due to some other cause determined by the Assistant Secretary for Defense Programs to be good and sufficient. Whenever procedures under 1 or 2 above are used, the employee shall be given a summary of the information which shall be as comprehensive and detailed as the National security permits and appropriate consideration shall be accorded to the fact that

the employee did not have an opportunity to cross-examine such person. (NOTE: The hearing officer may request the Manager to arrange for the issuance of subpoenas for witnesses, including those for witnesses who will appear on behalf of the employee. Testimony of the employee and of all witnesses shall be given under oath or affirmation. When procedures under paragraphs 5c(3)(a) or 5c(3)(b) are used, the Manager will obtain the necessary verification(s) or determination(s).

- (4) Record the review proceedings and forward a copy of the record to the Manager.
 - (5) Make specific written findings and a written recommendation, based upon the record, and forward it, together with a statement of the reasons, therefore, to the Manager.
- d. The Manager of the Operations Office shall, in the event the employee fails to request a hearing officer review or subsequent to receipt of the hearing officer's submissions, promptly issue a decision in the matter. If the Manager decides not to certify or to revoke the PAP certification of a DOE or contractor employee because the individual is not suitable for assignment to nuclear explosive duties, the Manager shall:
- (1) Inform the employee in writing of the decision not to grant, or the decision to revoke, the individual's certification and the specific reasons therefore.
 - (2) In addition, where there has been a hearing officer review, forward a copy of the record of the review proceedings and of the hearing officer's recommendation and statement of the reasons, therefore, to the employee, and inform the employee in writing:
 - (a) That the individual may have the decision reviewed by the Assistant Secretary for Defense Programs and may present the individual's position in writing to the Assistant Secretary for Defense Programs, provided the individual requests such a review and presentation in writing through the manager within 20 working days of the individual's receipt of the Manager's decision.
 - (b) That, if within 20 working days of receipt of the Manager's decision, the individual does not request a review of the decision by the Assistant Secretary for Defense Programs, the Manager's decision not to grant or to revoke certification shall be final.

- e. The Manager of the Operations Office receiving a request for review by the Assistant Secretary for Defense Programs of a decision not to grant or to revoke a PAP certification shall forward through DP-20 to the Assistant Secretary for Defense Programs:
 - (1) The employee's request for a review by the Assistant Secretary for Defense Programs of the decision.
 - (2) A copy of the decision and the specific reasons therefore.
 - (3) The employee's written position concerning the decision.
 - (4) A copy of the record of the review proceedings and of the hearing officer's recommendation and statement of the reasons therefore.
 - f. The Assistant Secretary for Defense Programs, upon receipt of an employee's request to review the decision not to grant or to revoke the individual's PAP certification, shall review all information forwarded by the Manager of the Operations Office and issue a decision in support of the Manager's decision or grant or reinstate the employee's certification.
6. TERMINATION OF PAP CERTIFICATION PROCESSING OR REVIEW. If, for reasons not involving PAP considerations, an employee is no longer being considered for assignment to nuclear explosive duties or is no longer assigned to such duties, any processing of a decision with respect to the employee's certification pursuant to this Chapter shall, at the employee's option, either be terminated without a final determination or pursued to final determination. If, at a later date, an employee who chose not to have a final determination should again be considered for assignment to nuclear explosive duties, processing of the individual's certification pursuant to this Chapter shall be commenced anew.
7. PAP CERTIFICATION LISTS.
- a. Managers of Operations Offices granting PAP certifications within the provisions of this Chapter will establish procedures for developing and maintaining a current list of DOE and contractor employees certified in accordance with the provisions of this Chapter. As a minimum, the procedures shall provide for:
 - (1) The prompt addition of employee names granted certification.

- (2) The prompt removal of employee names whose certifications have been revoked.
- (3) A quarterly review of the list to assure it is current.
- (4) The removal of employee names no longer assigned to nuclear explosive duties.
- b. The purpose of PAP certification lists is to provide an up-to-date ready reference of DOE and contractor employees certified in accordance with the provisions of the PAP.
- c. The number of DOE and contractor employees included on the personnel assurance program certification lists will be kept to a minimum consistent with operating and administrative requirements.

8. TRAINING REQUIREMENTS FOR PAP PHYSICIANS AND SUPERVISORS OF PAP PERSONNEL.

- a. A program shall be developed and maintained to provide special training to PAP physicians to qualify them to participate in the PAP evaluation process and to provide expert professional advice on fitness for nuclear explosive duty. As a minimum, the special training program shall include:
 - (1) Explanation of nuclear explosion duties and the Nuclear Explosive and Weapon Safety Program.
 - (2) Explanation of the objectives, purposes, policies, and requirements of the PAP.
 - (3) Orientation on nuclear explosive processing and the work environment in areas where nuclear explosive operations are performed (a valid DOE "Q" clearance is required if classified information is discussed or accessed).
- b. A program shall be developed and maintained to provide the special training to qualify DOE and DOE contractor supervisors supervising nuclear explosive duty employees. As a minimum, the special training program shall include:
 - (1) Explanation of nuclear explosive duties of the Nuclear Explosive and Weapon Safety Program.
 - (2) Explanation of objective, purpose, policies, and requirements of the PAP.

- (3) Orientation on the early identification of behavior, attitude, and/or job performance that indicates a risk of degradation in reliability or judgment.
 - (4) Orientation in the early identification of alcohol or drug abuse.
 - (5) Orientation in the importance of the process for the timely reporting to appropriate personnel of any PAP concern.
 - c. Training records shall be established for PAP physicians and supervisors of PAP personnel. These training records shall be periodically reviewed and be auditable.
9. PAP AND NUCLEAR EXPLOSIVE DUTY QUALIFICATION RECORDS. Certifying officials shall maintain records for individuals regarding all reviews and certification for their inclusion in the PAP, to include training and qualification for assignment to nuclear explosive duties covered in Chapter I. The intent is to have a consolidated record showing that all certification and qualification requirements for each individual performing nuclear explosive duties have been met. A record similar to Attachment I-3 can be used, or a local record can be designed. This consolidated record is not intended to replace any other records that are needed to document employee certification and qualification.

ACKNOWLEDGMENT AND AGREEMENT
TO PARTICIPATE IN THE PERSONNEL ASSURANCE PROGRAM (EXAMPLE)

I, _____ (applicant's/employee's full name), acknowledge that I am seeking certification or recertification in the Personnel Assurance Program (PAP).

I recognize that the Department of Energy (DOE) has the highest interest of national security and public health and safety in assuring that individuals performing nuclear explosive duties meet the highest standards of human reliability.

I acknowledge that I have been advised of the requirements for performing nuclear explosive duties. I have also been advised of my responsibilities under the PAP. The PAP certification process including comprehensive testing for drug use, alcohol abuse, physical capability, and mental stability, have been fully explained to me.

I hereby consent and agree to submit to all components under the PAP and further consent and agree to cooperate fully with _____ and/or the DOE in the assessment of my certification to a PAP position.

Date

Employee

Supervi sor

REFUSAL OF CONSENT (EXAMPLE)

The requirements of the Personnel Assurance Program (PAP) have been explained and I hereby decline to participate in the program. I acknowledge that this decision will result in my reassignment to other than nuclear explosive duties, if available, and the termination of further processing of my certification for the PAP.

Date

Employee

Supervi sor

AUTHORIZATION AND CONSENT TO RELEASE PERSONAL RECORDS IN
CONNECTION WITH THE PERSONAL ASSURANCE PROGRAM (EXAMPLE)

I, _____ (applicant's/employee's full name), am seeking certification or recertification in the Personnel Assurance Program (PAP).

I understand that the PAP certification or recertification process will generate medical and nonmedical records relevant to my eligibility for the PAP. I recognize that these records are protected by the Privacy Act of 1974, as amended.

For purposes of this consent, my PAP records include, but are not limited to, any records generated by a preemployment check performed by either _____ (DOE contractor's corporate/organization name, hereinafter "Corporation") or the Department of Energy (DOE): medical records, including but not limited to, medical histories, results of medical examinations and tests to determine alcohol abuse, and the results of psychological examinations and/or tests; and the results of urine tests taken to determine the presence of illegal drugs or alcohol in my body.

I hereby consent that the foregoing PAP records, and any of them, may be disclosed to the appropriate Organization management and DOE officials who have a legitimate need for the records in the performance of their duties and responsibilities in the PAP certification, recertification, or recertification process.

I acknowledge that such disclosure in connection with the PAP is an approved disclosure in accordance with 5 USC 552a(b)(1). I further agree that this document will serve as written consent to the disclosure of the PAP records to the appropriate Organization management and DOE officials within the meaning of the Privacy Act.

I further waive any rights and release the Organization, DOE, and any and all individuals, including DOE contractor medical department personnel, from liability under the Privacy Act 5 USC 552a, the U.S. or state constitutions, any other applicable federal or state statutes, any applicable physician-patient privilege, and common law claims of any nature whatsoever, for disclosure of my PAP records to Organization management or DOE officials with a legitimate need for the records in the performance of their responsibilities in the PAP certification, recertification, or recertification process.

My signature below acknowledges that I have read and understand the foregoing authorization and consent agreement,

Date

Employee

Supervi sor

PERSONNEL ASSURANCE PROGRAM CERTIFICATION/RECERTIFICATION
ORGANIZATION (EXAMPLE)

Requested for:

Applicant's Full Name, L, F, MI

Department

Applicant's Job Title

Applicant's Organization

Date

Observing
Supervisor

My observation of the applicant in a working environment during the period _____ to _____ has revealed cause for concern for work with nuclear explosives. I have briefed the applicant on the DOE PAP and the need for reliable performance. Applicant demonstrates a positive attitude toward the PAP.

Supervisor

Date

Applicant
Acknowledgment

I have interviewed and briefed on the purpose and significance of the PAP and understand its intent and significance.

PAP Applicant

Date

Medical
Review

The applicant has been given a medical evaluation in accordance with the requirements in DOE 5610.11 and is acceptable for the PAP.

Medical Director

Date

Personnel
Review

The personnel file of the applicant has been reviewed and no information has been identified disqualifying the applicant from the PAP.

Personnel Reviewer

Date

Training
Review

The applicant has successfully completed the required training to be qualified from PAP and to perform nuclear explosive duties.

Training Coordinator

Date

Organization
PAP
Coordinator
Review

I have reviewed the above evaluations and forward the request for certification.

Organization PAP Coordinator

Date

Security
Review

Based on input from the cognizant DOE Security Office, a review of the security files has been conducted and no information has been identified disqualifying the applicant from PAP. The applicant has a valid Q clearance.

Security Reviewer

Date

DOE PAP
Coordinator
Review

I have reviewed the above evaluations and all certifications requirements have been met.

DOE PAP Coordinator/Other
Qualified Reviewer

Date

DOE
Certification

I have reviewed the above evaluations of the applicant and certify the applicant's acceptability for nuclear explosive assignments.

DOE Certifying Official

Date

CHAPTER 11
TRAINING AND QUALIFYING OF DOE AND DOE CONTRACTOR EMPLOYEES
FOR ASSIGNMENT TO NUCLEAR EXPLOSIVE DUTIES

1. GENERAL. This Chapter establishes the requirements of a program for initial training and qualifying DOE and DOE contractor employees for assignment to nuclear explosive duties and periodic training to maintain qualifications. The technical and operational training requirements established by this Chapter will be satisfied by a program of classroom instruction, observation, oral or written examinations, and/or hands-on training on nonnuclear configurations.
2. REQUIREMENTS.
 - a. A program shall be developed and maintained to provide the special training required to qualify DOE and DOE contractor employees for assignment to nuclear explosive duties. As a minimum, the special training program shall include:
 - (1) The purpose, policies, objectives, and requirements of the Personnel Assurance Program.
 - (2) The purpose, objective, and responsibilities of the two-person concept for operations.
 - (3) Responsibilities associated with custody, control, and access to nuclear explosives.
 - (4) Operational procedures to be performed.
 - (5) Proper use of equipment and tooling required for nuclear explosive operations.
 - (6) Use of general and specific nuclear explosive safety rules associated with nuclear explosive operations.
 - (7) Immediate-action and emergency procedures associated with nuclear explosive operations.
 - (8) Conducting and documenting drills and exercises to evaluate training in all required areas.

- (9) Provisions to assure nuclear-explosive-duty-qualified employees remain proficient in the duties to include hands-on with nonnuclear configurations, for which they are qualified.
 - (10) Written or oral examinations, as appropriate, to assure proficiency in nuclear explosive duties.
 - b. Individual records will be maintained for each employee trained and qualified for nuclear explosive duty. The record shall include initial qualifications, training received, results of examinations, and evidence of periodic retraining to maintain qualifications.
3. RESPONSIBILITIES. Managers responsible for operations subject to the provisions of this Order shall assure that:
- a. Employees are properly trained and qualified prior to assignment to nuclear explosive duties.
 - b. Appropriate training programs and records are properly established and maintained.
 - c. Training programs are reviewed and updated to reflect changes in plans and procedures.
 - d. Training records are periodically reviewed and be auditable.

CHAPTER III

TWO-PERSON CONCEPT FOR NUCLEAR EXPLOSIVE OPERATIONS

1. GENERAL. This Chapter prescribes requirements to establish the two-person concept for operations with nuclear explosives. The two-person concept is one of the procedures implemented to enhance nuclear explosive safety and to prevent an accidental or an unauthorized action with a nuclear explosive.
2. TWO-PERSON CONCEPT. The two-person concept for operations requires that a minimum of two authorized persons in the DOE Personnel Assurance Program, each having technical knowledge and being in a position to detect incorrect or unauthorized operations with respect to the task to be performed and familiar with pertinent safety and security requirements, be present during all operations that afford access to a nuclear explosive. The two-person concept applies to any area that contains a nuclear explosive or principal components of a nuclear explosive (main charges/pit) or any other designated area from which a lone individual is denied access.
3. IMPLEMENTATION. Managers of the Operations Offices responsible for operations with nuclear explosives shall establish procedures for implementing the two-person concept

CHAPTER IV

NUCLEAR EXPLOSIVE SAFETY STANDARDS AND GENERAL NUCLEAR EXPLOSIVE SAFETY RULES

1. GENERAL. This Chapter establishes nuclear explosive safety standards and general nuclear explosive safety rules that apply to all DOE nuclear explosive operations.
2. NUCLEAR EXPLOSIVE SAFETY STANDARDS. All DOE nuclear explosive operations, including transportation, shall be evaluated against the following qualitative standards (in the context of this Order, the word, prevent, means to minimize the possibility; it does not mean absolute assurance against):
 - a. There shall be positive measures to prevent nuclear explosives involved in accidents or incidents from producing a nuclear yield.
 - b. There shall be positive measures to prevent deliberate prearming, arming, or firing of a nuclear explosive except when directed by competent authority.
 - c. There shall be positive measures to prevent the inadvertent prearming, arming, launching, firing, or releasing of a nuclear explosive in all normal and credible abnormal environments.
 - d. There shall be positive measures to ensure adequate security of nuclear explosives pursuant to the DOE safeguard and security requirements.
 - e. There shall be positive measures to prevent accidental, inadvertent, and deliberate unauthorized dispersal of plutonium to the environment.
3. GENERAL NUCLEAR EXPLOSIVE SAFETY RULES. The general nuclear explosive safety rules set forth in this paragraph are mandatory for all operations involving nuclear explosives in the custody of the DOE. Any deviation from the following general nuclear explosive safety rules shall be approved by the Assistant Secretary for Defense Programs.
 - a. Nuclear explosive safety rules shall be consistent with the nuclear explosive safety standards listed in paragraph 2 above.

- b. No operations involving nuclear explosives shall be performed until a Nuclear Explosive Safety Study or Survey is conducted, and a report is approved. Study reports are approved by DP-20, and Survey reports are approved by the cognizant office Managers.
- c. All operations involving nuclear explosives shall be conducted in accordance with cognizant DOE operations office approved nuclear explosive safety rules and safety procedures.
- d. All operations involving nuclear explosives shall be performed in accordance with approved written procedures. Reader worker routines and checkoff lists are to be utilized for operations involving nuclear explosive duties as determined by the cognizant Operations Office Manager.
- e. The assembly or disassembly of nuclear explosives will be performed only at those locations authorized by the Assistant Secretary for Defense Programs.
- f. Operations, to include transportation, involving a nuclear explosive test device not known to be one-point safe shall be conducted only at the Nevada Test Site.
- g. Production plant operations shall not be started on a nuclear explosive until it is certified by the design agency to be one-point safe.
- h. If it is determined that a nuclear explosive previously certified to be one-point safe no longer meets the one-point safety criteria, all production plant operations and offsite transportation will be immediately discontinued on that nuclear explosive. Before production plant operations or offsite transportation can be resumed on that nuclear explosive, a Nuclear Explosive Safety Study shall be conducted and the study reviewed and approved by the DP-20 and the Assistant Secretary for Defense Programs.
- i. Prior to the use of special tooling, test equipment, handling equipment, and transport equipment during nuclear explosive operations, there shall be a safety analysis performed on the equipment to assure that there is an adequate degree of safety inherent in their design and use.

4. SUPPLEMENTAL NUCLEAR EXPLOSIVE SAFETY RULES. Managers responsible for nuclear explosive operations shall assure that supplemental safety rules recommended by Nuclear Explosive Safety Studies or Surveys are fully considered and implemented, as required, to supplement the nuclear explosive safety standards and general nuclear explosive safety rules for specific operations with nuclear explosives; or to address specific characteristics of an individual design of a nuclear explosive, a specific test, or an operation.

CHAPTER V

PROCEDURE FOR NUCLEAR EXPLOSIVE SAFETY STUDIES AND NUCLEAR EXPLOSIVE SAFETY SURVEYS

1. GENERAL. This Chapter establishes the responsibilities, processes, procedures, and requirements for Nuclear Explosive Safety Studies and Nuclear Explosive Safety Surveys.
2. REQUIREMENTS.
 - a. Prior to beginning any operation involving a nuclear explosive, before the nuclear explosive components (i.e., main charge high explosive parts and pit) are in the same nuclear explosive area, or before transporting a nuclear explosive, the Manager of the operations office responsible for the proposed operation shall assure that a nuclear explosive safety study or nuclear explosive safety survey is conducted. Appropriate action shall be taken by the Manager in accordance with the provisions of this chapter, on all recommendations to include nuclear explosive safety rules and immediate-action procedures developed by the nuclear explosive safety study and/or survey.
 - b. For a proposed operation involving a nuclear explosive that is believed to be comparable to a previously studied and approved operation, a nuclear explosive safety survey may determine that the approved study is valid for the operation being considered. This action is appropriate provided that the characteristics of the system, which affect nuclear explosive safety, are essentially the same, and the approved nuclear explosive safety rules provide adequate nuclear explosive safety.
3. NUCLEAR EXPLOSIVE SAFETY STUDIES.
 - a. Organization.
 - (1) The Manager of the Operations Office responsible for a proposed operation or test to be studied shall appoint the Chairperson of the Nuclear Explosive Safety Study Group (NESSG), who will be a DOE employee.

- (2) The chairperson shall schedule the Nuclear Explosive Safety Study and request appointment of the additional study group members and advisors.
- (3) The NESSG shall normally include at least one member each from DP-20, Albuquerque, Nevada, and San Francisco Operations Offices (who shall be DOE staff) and from the laboratories (Los Alamos National Laboratory, Lawrence Livermore National Laboratory, and Sandia National Laboratories), as well as other members or advisors as required by the cognizant Manager. Additionally, when production plant nuclear explosive operations are being studied, the NESSG shall include one member each from the applicable DOE area office and the DOE production contractor organization.
- (4) Upon request of the cognizant Operations Office Manager, other Managers of Operations Offices shall provide knowledgeable DOE and DOE contractor personnel to participate as members of, or advisors to, NESSGs.
- (5) NESSG members shall be knowledgeable personnel other than those having direct design, development, or operational responsibility for the nuclear explosive and the operation or test under consideration. These individuals shall:
 - (a) Have experience with or knowledge of the development, testing, and/or production of nuclear explosives.
 - (b) Have knowledge and understanding of DOE directives, policies, and procedures governing nuclear explosive safety requirements and nuclear explosive production, test, and transportation activities.
 - (c) Have currency in the technology and principles needed to evaluate the nuclear explosive safety of nuclear explosive production, test, and transportation activities.

b. Functions.

- (1) To provide the Manager of the Operations Office responsible for a proposed operation or test and DP-20 with a report concerning the nuclear explosive safety of the proposed operation.

- (2) To evaluate proposed operations associated with the nuclear explosive being studied, to identify any nuclear explosive safety concerns and make appropriate recommendations, and to develop immediate-action and emergency procedures and specific safety rules as necessary.
 - (3) To assure that all nuclear explosive operations are evaluated for compliance with the nuclear explosive safety standards and rules specified in Chapter IV and that there are no unresolved safety issues that could affect nuclear explosive safety.
- c. Scope. The NESSG shall consider and evaluate, as appropriate:
- (1) A description of the operations or test to be performed and all applicable technical data.
 - (2) A description of the nuclear explosive.
 - (3) One-point safety of the nuclear explosive.
 - (4) Potential nuclear criticality risks associated with the operation or test to be performed.
 - (5) A description and analysis of the design safety features of the nuclear explosive.
 - (6) An electrical tester description and safety analysis for each tester used on a nuclear explosive, and a safety analysis of the tester/nuclear explosive interface.
 - (7) Special tooling and written procedures used during the processing of the nuclear explosive.
 - (8) Facilities and associated equipment used during the processing of the nuclear explosive.
 - (9) Reader worker procedure and check-off.
 - (10) A safety analysis of the nuclear explosive prearming, arming, timing, and firing systems and procedures to be employed.
 - (11) A description of the countdown emergency stop and hold capability.

- (12) The potential threat to a nuclear explosive from security operations.
 - (13) The onsite and offsite transportation of nuclear explosives.
 - (14) An analysis of the nuclear detonation response (predictably safe or unpredictable) of a nuclear explosive to an abnormal environment.
 - (15) The characteristics of associated systems in order to determine any potential threat to nuclear explosive safety.
 - (16) The quantitative risk assessment for a potential dispersal of radioactive material from the pit of a nuclear explosive as documented in a risk assessment report.
 - (17) Other information that applies to nuclear explosive safety, which the NESSG determines to be necessary.
- d. Source of Input Documentation. The DOE and DOE contractor organizations responsible for the design, production, transport, or security of nuclear explosives shall provide the information, data, and analyses required in paragraph 3c above to the NESSG.
- e. Nuclear Explosive Safety Study Report.
- (1) The Nuclear Explosive Safety Study Report shall be provided to the Manager of the Operations Office responsible for the proposed nuclear explosive operation or test for review.
 - (2) The report shall include, as a minimum:
 - (a) A description of the proposed nuclear explosive operation or test, the nuclear explosive, and associated systems.
 - (b) Pertinent input documentation.
 - (c) A listing of all existing NESSG reports that are applicable to the proposed nuclear explosive operation or test.
 - (d) Conclusions and recommendations based on the NESSG evaluations specified in paragraph 3c above, as appropriate.

- (e) Proposed nuclear explosive safety rules and immediate-action and emergency procedures for the nuclear explosive operation or test, as appropriate.
 - (f) A statement concerning compliance with the criteria and standards in this Order, and whether any unresolved safety issues exist.
- (3) In the event a NESSG member or members do not agree with the report, a minority opinion shall be appended to the report.

4. NUCLEAR EXPLOSIVE SAFETY SURVEYS.

a. Organization.

- (1) The Manager of the Operations Office responsible for a proposed operation or test, for which an existing NESSG report may be applicable, shall appoint the Chairperson of the NESSG.
- (2) The Chairperson shall schedule the Nuclear Explosive Safety Survey and request appointment of the additional NESSG members and advisors.
- (3) The NESSG shall normally include at least one member each from Headquarters (DP-20), Albuquerque, Nevada, and San Francisco Operations Offices (who shall be DOE staff), and from each of the laboratories (Los Alamos National Laboratory, Lawrence Livermore National Laboratory, and Sandia National Laboratories), as well as other members or advisors as desired by the Manager. Additionally, when production plant nuclear explosive operations are being surveyed, the NESSG shall include one member each from the applicable DOE area office and the DOE production contractor organization.
- (4) Upon request of the Manager of the Operations Office responsible for a proposed operation or test, other Managers of Operations Offices shall provide knowledgeable DOE and contractor personnel to participate as members of, or advisors to, NESSGs.
- (5) NESSG members shall be knowledgeable personnel other than those having direct design, development, or operational responsibility for the nuclear explosive and the operation or test under consideration. This individual shall:

- (a) Have experience with or knowledge of the development, testing, and/or production of nuclear explosives.
- (b) Have knowledge and understanding of DOE directives, policies, and procedures governing nuclear explosive safety requirements and nuclear explosive production, test, and transportation activities.
- (c) Have currency in the technology and principles needed to evaluate the nuclear explosive safety of nuclear explosive production, test, and transportation activities.

b. Functions.

- (1) To provide the Manager of the Operations Office responsible for a proposed operation or test with a report concerning the nuclear explosive safety of the proposed operation.
- (2) To conduct a comparative analysis of the proposed operation or test with the nuclear explosive, operation, and/or test evaluated in an existing NESSG Report.

c. Scope. The NESSG shall consider and evaluate, as appropriate:

- (1) A description of the operation or test to be performed and all applicable technical data.
- (2) A description of the nuclear explosive.
- (3) One-point safety of the nuclear explosive.
- (4) Potential nuclear criticality risks associated with the operation or test to be performed.
- (5) The characteristics of associated systems in order to determine any potential threat to nuclear explosive safety.
- (6) Applicability of existing NESSG reports to the proposed operation or test being surveyed.

d. Adequacy and Applicability. If it is determined that existing NESSG reports are not adequate and applicable to the proposed operation or test, a Nuclear Explosive Safety Study shall be conducted.

e. Nuclear Explosive Safety Survey Report.

- (1) The Nuclear Explosive Safety Survey Report shall be submitted to the Manager of the Operations Office responsible for the proposed nuclear explosive operation for approval. A copy of the report will be provided to DP-20.
- (2) The report shall include, as a minimum:
 - (a) A description of the proposed nuclear explosive operation or test, the nuclear explosive, and associated systems.
 - (b) Pertinent input documentation.
 - (c) A listing of all existing NESSG reports that are applicable to the proposed nuclear explosive operation or test.
 - (d) Specific conclusions and recommendation, as appropriate.
 - (e) A statement concerning compliance with the criteria and standards in this Order and whether any unresolved safety issues could affect nuclear explosive safety.
- (3) In the event a NESSG member or members do not agree with the report, a minority opinion shall be appended to the report.

5. APPROVAL PROCEDURES FOR THE NUCLEAR EXPLOSIVE SAFETY GROUP REPORTS.

a. Studies

- (1) The Manager of the Operations Office responsible for a proposed nuclear explosive operation or test evaluated shall review the NESSG report and make a recommendation to DP-20 regarding approval of the report.
- (2) Documentation of the Manager's review shall be maintained as an integral part of the NESSG report. The documentation shall include reasons for disapproving any of the NESSG's recommendations and/or for rejecting any minority opinion in the NESSG report.
- (3) Documentation of the DP-20 action on the NESSG report shall be maintained as an integral part of the report, including the disposition of any minority opinions in the report.

- (4) DP-20 will advise the cognizant Field Office Manager of approval or any needed changes to the operation or test needed for approval of the report.

b. Surveys

- (1) The Manager of the Operations Office responsible for the proposed nuclear explosive operation or test evaluated shall review and take appropriate action concerning its approval or disapproval.
- (2) Documentation of the Manager's action on the NESSG Survey Report shall be maintained as an integral part of the report, including the disposition of any minority opinions in the report.
- (3) Operations Office Managers shall provide a copy of all surveys to DP-20.

6. VARIATIONS AND VALIDATION PERIOD FOR REPORTS.

- a. The Manager shall assure that prior to any variation to an approved nuclear explosive operation, as documented in an approved NESSG report, that a determination be made regarding any possible adverse impact on nuclear explosive safety. At a minimum, the action shall include an immediate nuclear explosive safety review of the proposed variation by qualified individuals, predesignated by the Manager. Based on their evaluation as to possible adverse impact on nuclear explosive safety, a determination will be made by the Manager's designated representative onsite. If it is determined that adverse impact is deemed possible, the Manager shall be notified and shall convene a NESSG to conduct a survey or study as required.
- b. Approved NESSG study or survey reports are valid only for the nuclear explosive and the nuclear explosive operation evaluated and are valid for 5 years unless there are significant changes to the operation for which the report was written.

CHAPTER VI
PERMANENT MARKING INSTRUCTIONS AND
NUCLEAR EXPLOSIVE-LIKE ASSEMBLY REQUIREMENTS

1. GENERAL. This Chapter addresses the requirement for having permanent marking instructions for nuclear explosives and nonnuclear configurations, and having nuclear explosive-like assembly (NELA) requirements for the assembly and identification of nonnuclear configurations.
2. APPLICABILITY. Permanent marking instructions apply to nuclear explosives and to nonnuclear configurations that are in the custody of the DOE. NELA requirements apply to the assembly and identification of nonnuclear configurations that are in the custody of the DOE.
3. PERMANENT MARKING INSTRUCTIONS. Technical criteria for permanent marking instructions shall be established by the Manager, Albuquerque Operations Office. Permanent marking of nuclear explosives and non-nuclear configurations provide a rapid and accurate method to distinguish between configurations capable of nuclear detonation and those incapable of nuclear detonation.
4. NELA REQUIREMENTS. Technical criteria for NELA requirements shall be established by the Manager, Albuquerque Operations Office. These requirements will provide positive measures to prevent the accidental, inadvertent, or deliberate unauthorized assembly of a nuclear explosive in place of a nonnuclear configuration, and the accidental, inadvertent, or deliberate unauthorized transfer of a nuclear explosive in place of a nonnuclear configuration.
5. IMPLEMENTATION. Managers of other operations offices shall implement the criteria for permanent marking instructions and NELA requirements as established by the Manager, Albuquerque Operations Office, as applicable.

CHAPTER VII

CONTROL OF ELECTRICAL TESTERS/EQUIPMENT

1. GENERAL. This Chapter establishes the requirements for the design, fabrication, control, calibration, operation, storage, and modification of electrical testers/equipment used in nuclear explosive areas.
2. REQUIREMENTS. Managers of Operations Offices responsible for operations with nuclear explosives shall establish requirements for the control of electrical testers/equipment used in nuclear explosive areas.
 - a. Requirements for testers that introduce electrical energy into a nuclear explosive shall provide for, as a minimum:
 - (1) The establishment of tester design and fabrication criteria.
 - (2) The preparation of a comprehensive safety analysis and evaluation for each electrical tester and the electrical tester/nuclear explosive interface.
 - (3) Preparation of instructions for operating and safety checkout, acceptance, and calibration procedures for the electrical tester.
 - (4) The establishment of procedures to assure that testers are properly controlled, stored, maintained, calibrated, and operated.
 - (5) That each electrical tester and its nuclear explosive interface shall be studied by a Nuclear Explosive Safety Study Group and approved prior to use on a nuclear explosive.
 - (6) The establishment and maintenance of a DOE record of approved electrical testers.
 - b. Prior to the introduction of any electrical energy source, or equipment utilizing any electric energy source within a nuclear explosive area into a nuclear explosive area, the energy source or equipment item will be approved for introduction by a person designated in writing by the DOE cognizant official to make such approvals.

CHAPTER VIII

ONSITE AND OFFSITE TRANSPORTATION OF NUCLEAR EXPLOSIVES

1. GENERAL. This Chapter establishes the requirements for assuring the nuclear explosive safety of the onsite and offsite transportation of nuclear explosives in the custody of the DOE. The process specified in Chapter V for evaluation by the Nuclear Explosive Safety Study Group (NESSG), for preparation of a NESSG report, and for approval of the NESSG report by DP-20, is applicable to all onsite and offsite transportation of nuclear explosives.
2. REQUIREMENTS.
 - a. Prior to the onsite transportation of nuclear explosives, the following requirements shall be met:
 - (1) Vehicles for transportation shall be studied by the NESSG and approved.
 - (2) Loading, unloading, and tie-down equipment and procedures shall be studied by the NESSG and approved.
 - b. Prior to the offsite transportation of nuclear explosives, the following requirements shall be met:
 - (1) Nuclear explosives shall be transported in a safe-secure trailer (SST) or safe-secure railcar (SSR) and the transportation shall be in accordance with the procedures specified in Technical Publication (TP) 45-51D (SST) or TP 45-51E (SSR).
 - (2) Transportation of nuclear explosives shall comply with the general instructions specified in TP 35-51; the transportation procedures, equipment, and tie-down requirements specified in TP 45-51; and the technical data specified in TP 45-51A.
 - (3) Transportation of nuclear explosives shall comply with the plutonium limits specified in TP 20-7.
 - (4) A safety analysis report (SAR) shall be prepared for the SST or SSR.
 - (5) Written operating procedures shall be prepared and approved.

- (6) A risk assessment report shall be prepared and shall consider the requirements in paragraphs 2b(1) through 2b(5) above. The nuclear explosives shall be assessed within the SST or SSR, to include the protection provided by the SST or SSR.
- c. Prior to the offsite transportation of an unassembled nuclear explosive, which includes the main charge high explosive parts and pit, for a specific test device, the following requirements shall be met:
 - (1) The unassembled nuclear explosive shall be transported in a SST.
 - (2) Loading, unloading, and tie-down equipment and procedures shall be studied and approved.
 - (3) Transportation of the unassembled nuclear explosive shall comply with the plutonium limits specified in TP 20-7.
 - (4) A safety analysis report (SAR) shall be prepared for the SST.
 - (5) Written operating procedures shall be prepared and approved.
 - (6) A risk assessment report shall be prepared and shall consider the requirements in paragraphs 2c(1) through 2c(5) above. The unassembled nuclear explosive shall be assessed within the SST, to include the protection provided by the SST.

CHAPTER IX

RISK ASSESSMENT

1. GENERAL. This Chapter establishes the requirements for the quantitative risk assessment of all onsite operations and offsite transportation for credible accidents that could disperse plutonium from a nuclear explosive. Individual members of the public should be provided a level of protection from the consequences of these operations such that individuals bear no significant additional risk to life and health than that to which they are generally exposed.
2. REQUIREMENTS. Risk assessments shall be performed for all onsite operations, including transportation, and offsite transportation for credible accidents that could disperse plutonium from a nuclear explosive to identify probabilities of occurrence and levels of consequences. The results of the risk assessment shall be documented in a risk assessment report (RAR) and submitted to the Nuclear Explosive Safety Study Group (NESSG) for evaluation. Copies of risk assessment reports will be provided to DP-20 by the cognizant operations Office Manager.
3. RISK ASSESSMENT. The quantitative risk assessment shall evaluate accidents that could disperse plutonium from a nuclear explosive for all onsite operations and offsite transportation. Details of the assessment shall be documented in a RAR. The RAR shall include, as a minimum:
 - a. A description of the nuclear explosive/explosives being assessed.
 - b. A description of the applicable operations.
 - c. Identification of potential accidents to include, as a minimum and as appropriate, accidents resulting in impact, puncture, crush, fire, immersion, chemical hazards, and electrical hazards or credible combinations of these environments.
 - d. Identification of potentially credible accidents based on severity of an accident and/or probability of accident occurrence and/or consequence of the accident.

CHAPTER X

REQUIREMENTS FOR NUCLEAR EXPLOSIVE OCCURRENCE REPORTING

1. GENERAL. This chapter establishes requirements whereby reportable occurrences during nuclear explosive operations are reported and analyzed and follow-up action is taken. The objectives of these requirements are to ensure prompt notification and appropriate action by DOE officials; that reportable occurrences are analyzed for the purpose of taking corrective actions to prevent the repetition of similar events which could degrade nuclear explosive safety; to identify any trends in occurrences, and to assure standardization of reporting. Information on these occurrences shall be analyzed, evaluated, and disseminated to all organizations who have been or could be effected.
2. CATEGORIZATION. Categorization of reportable occurrences shall be made as soon as practical and in all cases within 2 hours of identification. If categorization is not clear within the 2-hour timeframe, then the occurrence shall be initially categorized at the higher level being considered and DOE notified in accordance with this Order. Occurrences categorized as emergencies shall be reported immediately, i.e., in accordance with 3a of this Chapter. The occurrence categorization shall either be evaluated, maintained, or lowered as information is made available. The categories of reportable occurrences are:
 - a. Emergency. Emergencies are the most serious occurrences and require an increased alert status for onsite personnel and in specified cases for offsite authorities. The detailed classification for emergencies and the emergency responses to be taken are provided in DOE 5500.2A. The types of nuclear explosive occurrences that are to be categorized as emergencies are:
 - (1) Nuclear or high-explosive detonation.
 - (2) Dispersal of plutonium from a nuclear explosive.
 - (3) Seizure, theft, or loss of a nuclear explosive,
 - (4) Inadvertent or deliberate unauthorized arming of a nuclear explosive.

- (5) Any safeguards or security event involving nuclear explosives that is an actual or potential threat to DOE operations, facilities, or personnel, and results or could result in significant effects on the public health and safety and/or on the national security.
- b. Unusual Occurrence. An unusual occurrence is a significant unplanned occurrence involving a nuclear explosive that results in the following:
- (1) The unauthorized introduction of electrical energy into a nuclear explosive.
 - (2) The unauthorized compromise of a nuclear explosive safety feature when installed on a nuclear explosive.
 - (3) A violation of a nuclear explosive safety standard or a nuclear explosive safety rule.
 - (4) A violation of the two-person concept.
 - (5) A "near miss" or damage to a nuclear explosive that could result in a credible threat to nuclear explosive safety.
 - (6) The damage to a nuclear explosive that results from an onsite or offsite transportation accident.
- c. Off-Normal Occurrence. An off-normal occurrence is an abnormal or unplanned event or condition that adversely affects the nuclear explosive safety program, but are not in the emergency or unusual occurrence category, such as:
- (1) Temporary removal of an individual from nuclear explosive duty.
 - (2) Revocation of the PAP certification of an individual.
 - (3) The identification of failure to comply with PAP requirements or procedures.
 - (4) The identification of improperly maintained records required in the nuclear explosive safety program.

3. NOTIFICATION. Requirements for verbal and written notification of reportable occurrences are as follows:
 - a. Emergencies. Verbal notification to DOE of emergencies shall be made within 15 minutes or less of categorization. Written notification shall be made as soon as practical, but in any event, within 24 hours of categorization, utilizing the notification Report (first page of the Occurrence Report).
 - b. Unusual Occurrences. Verbal notification to DOE of unusual occurrences shall be as soon as sufficient information is obtained to indicate the general nature and extent of the occurrence, but in any event, within 2 hours of categorization. Written notification shall be made within 24 hours of categorization utilizing the Notification Report.
 - c. Off-Normal Occurrences. For off-normal occurrences verbal notification to DOE is not mandatory, but written notification shall be made within 24 hours of categorization utilizing the Notification Report.

Note: DP-20 shall receive initial and follow-up reports to closure relating to all categories of this Order, in addition to any other Departmental requirements.

4. FOLLOW-UP NOTIFICATION. In addition to the initial verbal notifications required above, follow-up verbal notification shall also be made to DOE for any of the following:
 - a. Any degradation in the level of safety or other worsening conditions, including those that require the declaration of any of the emergency action levels, if such a declaration has not been previously made.
 - b. Any change from one emergency level to another.
 - c. Termination of an emergency.
5. OCCURRENCE REPORT PREPARATION. All occurrence report preparation will be performed as specified in DOE 5000.3A.

CHAPTER XI

REQUIREMENTS FOR NUCLEAR EXPLOSIVE SAFETY PROGRAM APPRAISALS

1. GENERAL. This chapter provides the requirements for the conduct of appraisals to assure compliance with the requirements of this Order.
2. REQUIREMENTS.
 - a. Annual appraisals shall be conducted to:
 - (1) Assure compliance with this Order.
 - (2) Provide management with objective, timely, and factual information on program performance.
 - (3) Identify any deficiencies and recommend appropriate corrective actions.
 - (4) Assure that adequate implementing resources and documents are in place, are current, and are capable of being audited.
 - (5) Evaluate the effectiveness of the implementation of applicable policies, requirements, and standards.
 - b. These annual appraisals shall be conducted on two levels:
 - (1) Operations Offices shall appraise Area Offices and/or DOE contractors, and the DP-20 shall appraise Operations Offices.
 - (2) The DP-20 appraisal of Operations Offices may require examination of Area Office and DOE contractor activities.
3. PREAPPRAISAL PREPARATIONS. The preparations for the appraisal shall include the following:
 - a. Appraisal team members shall be qualified and experienced in the subject matter to be appraised. The appraisal team shall be selected from individuals not having direct participation in the operations and organizations to be appraised.

- b. The appraising organization shall notify the organization to be appraised of the schedule and subject of the appraisal in writing 30 to 45 days prior to the appraisal.
 - c. The appraisal team shall review the findings and recommendations, along with the responses to the last appraisal of the organization to be appraised.
 - d. The organization being appraised shall provide appropriate management, programmatic, and nuclear explosive safety staff and administrative personnel to support the conduct of the appraisal.
4. APPRAISAL. The following procedures are applicable to the conduct of appraisals:
- a. In-briefing. An introductory meeting at the beginning of the appraisal is to be held among the appraisal team and appropriate management of the organization appraised. The agenda for the in-briefing is the following:
 - (1) Subject matter of the appraisal (Appraisal Team).
 - (2) Follow-up actions on the last appraisal (Organization).
 - (3) Any newer outstanding nuclear explosive safety issue (Organization).
 - (4) Any major resource, operational, or organizational changes between the last appraisal and current appraisal (Organization).
 - (5) Any results of internal appraisals by the appraised organization identifying any deficiencies and corrective actions taken (Organization).
 - b. Scope of Appraisal. The appraisal shall use this Order as the basis for the appraisal. The appraisal team shall use Attachment XI-1, as a guide for the topics to be appraised.
 - c. Out-Briefing and Draft Report. A closeout meeting at the end of the appraisal is to be held among the appraisal team and appropriate management of the appraised organization. At the closeout meeting an out-briefing will be conducted and a draft report presented to the appraised organization that will include the following:

- (1) Preliminary findings and recommendations of the appraisal. These shall be drafted by the appraisal team at the conclusion of the appraisal and discussed.
 - (2) Possible actions to correct any deficiencies or make improvements in the program.
 - (3) Improvements and achievements noted since the last appraisal.
 - (4) Any needed changes in policy or procedures.
 - (5) Any disagreements or differences in facts between the appraisal team and appraised organization.
- d. Quick Look Report. A "quick look" written summary of the findings and recommendations resulting from the appraisal shall be provided by the appraisal team leader to his/her management as soon as possible.
5. APPRAISAL REPORT. The following guidance for the final appraisal report is to be applied:
 - a. The appraised organization shall provide any comments concerning the factuality or accuracy of the draft report, reference 4c above, to the Headquarters within 15 days of receipt.
 - b. The appraising organization shall transmit the final appraisal report to the Manager of the appraised organization within 20 days after receipt of any comments on the draft appraisal report but no later than 35 days after the appraisal outbrief, reference 4c above.
6. APPRAISAL FOLLOW-UP. Within 60 days of receipt of the final appraisal report, the appraised organization shall transmit in writing to the appraising organization a report stating the corrective actions implemented and a corrective action plan and schedule for their implementation of any remaining deficiencies. Bimonthly reports will be submitted on the implementation of corrective actions until all actions are completed.

APPRAISAL GUIDE AND FORMAT FOR APPRAISAL REPORTS (EXAMPLE)

- A. COVER PAGE. The cover page should include the subject of the appraisal, the date of the appraisal, and the names and signatures blocks for each member of the appraisal team.
- B. INTRODUCTION. Should include the subject and dates of the appraisal; the composition of the appraisal team to include each member's name, area of expertise, and the areas he/she were primarily responsible for appraising; and the locations, organizations, and operations appraised.
- C. SUMMARY. A brief summary of the appraisal should be given, to include major findings and recommendations.
- D. FOLLOW-UP FROM LAST APPRAISAL. Each recommendation from the last appraisal and its respective corrective follow-up action should be discussed in this section.
- E. OBSERVATIONS, INTERVIEWS, AND EXAMINATIONS. Should include findings, conclusions, and recommendations addressing compliance for each of the below listed areas. The Appraisal Team should observe operations, and interview individuals, as appropriate, to determine their degree of proficiency and knowledge. As part of the appraisal, a drill or exercise should be conducted to determine proficiency in immediate action or emergency procedures. This drill/exercise should be conducted in a training facility and utilize inert trainers.
 - (1) Organization and Administration.
 - (2) Management Interest and Support.
 - (3) Staffing.
 - (4) Compliance with the Department's Nuclear Explosive and Weapons Safety Program.
 - (5) Personnel Assurance Program including PAP records.
 - (6) Training and Qualifying of Personnel including review of PAP training records.

- (7) Two-Person Concept of Operations
 - (8) Nuclear Explosive Safety Standards and General Nuclear Explosive Safety Rules.
 - (9) Safety Studies and Surveys.
 - (10) Permanent Marking Instructions and Nuclear Explosive-Like Assembly Requirements.
 - (11) Control of Electrical Testers/Equipment.
 - (12) Onsite and Offsite Transportation.
 - (13) Risk Assessment Report, if appropriate.
 - (14) Occurrence Reporting and follow-up action.
 - (15) Appraisals, if appropriate.
- F. SUGGESTIONS. Any recommended suggestions for enhancement of Nuclear Explosive Safety.