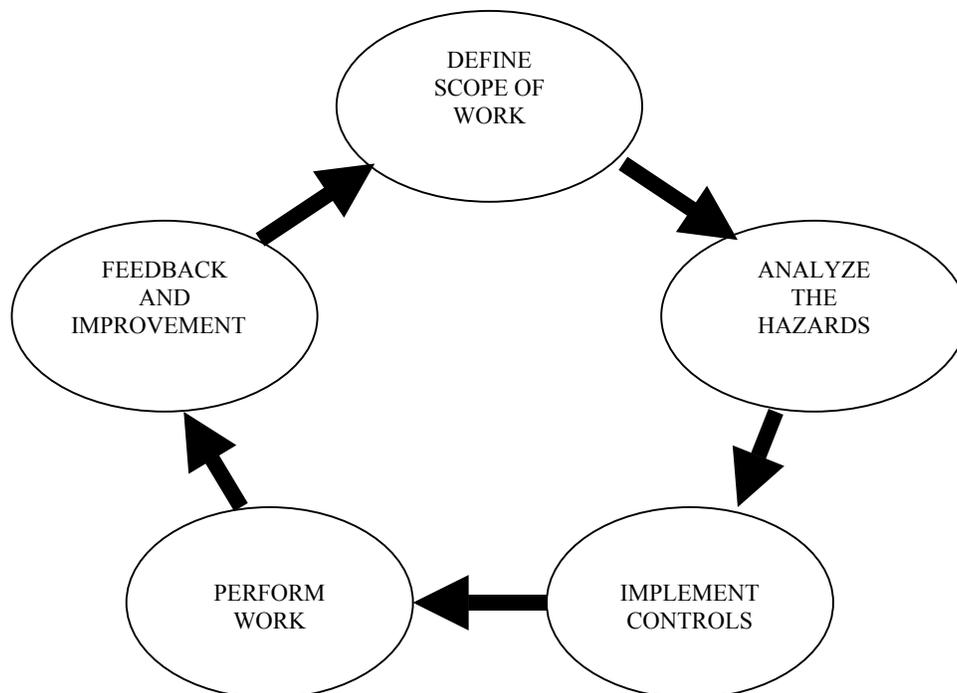




OFFICE OF AMARILLO SITE OPERATIONS INTEGRATED SAFETY MANAGEMENT SYSTEM DESCRIPTION



**DEPARTMENT OF ENERGY
ALBUQUERQUE OPERATIONS OFFICE**

United States Government

Department of Energy

memorandum

Albuquerque Operations Office
Office of Amarillo Site Operations

DATE: OCT 25 2002

REPLY TO: OASO:SHS:WMB

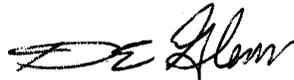
SUBJECT: Office of Amarillo Site Operations (OASO) Integrated Safety Management System
Description (ISMD)

TO: All OASO Personnel

Attached for your use is the latest OASO ISMD. The OASO ISM System Description provides detailed information on how the Office of Amarillo Site Operations applies the concepts of Integrated Safety Management (ISM) in the performance of its day-to-day activities. Through our actions and programs identified in this Description we implement the Secretary's Policy on Environment Safety and Health.

This Description serves as the central document capturing the job tasks of the OASO and provides a description of the manner in which work is accomplished safely by the OASO federal and contractor staff. It is also intended to serve as a tool to help the OASO staff ensure that it has adequately implemented the concepts of Integrated Safety Management.

Any questions on this version may be directed to myself at extension 3180, Mark Blackburn, ISM Manager at extension 3123, or Mike Reaka at extension 7198.



Daniel E. Glenn
Director

Attachment

S: ADOA/2002Memos/7839

OASO DIRECTOR'S MESSAGE

The OASO ISM System Description provides detailed information on how the Office of Amarillo Site Operations applies the concepts of ISM in the performance of its day-to-day activities. Through our actions and programs identified in this Description we implement the Secretary's Policy on Environment Safety and Health.

This Description serves as the central document capturing the job tasks of the Office of Amarillo Site Operations and provides a description of the manner in which work is accomplished safely by the OASO federal and contractor staff. It is also intended to serve as a tool to help the OASO staff ensure that it has adequately implemented the concepts of Integrated Safety Management.

OASO subscribes to the seven guiding principles of ISM (as discussed in this document) and implements them through the five ISM core functions of; (1) Define the Scope of Work, (2) Analyze the Hazards, (3) Implement Controls, (4) Perform Work, and (5) provide Feedback and Improvement.

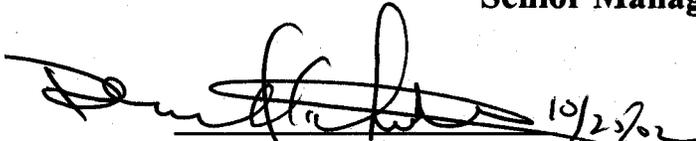
The general OASO policies that govern the safe work of the Federal employees are captured by: (1) this manual, (2) OASO procedures and (3) specific OASO policies.

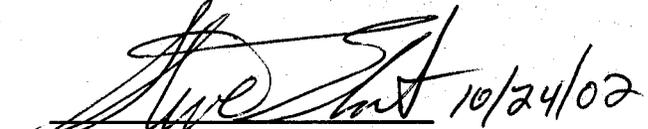
It is my personal goal to promote a safe work place for all our workers. I want every member of the OASO staff to feel free to come to me on any safety issue or concern. I am confident that together we can establish sound policies and programs that will help to support your individual safety responsibilities.

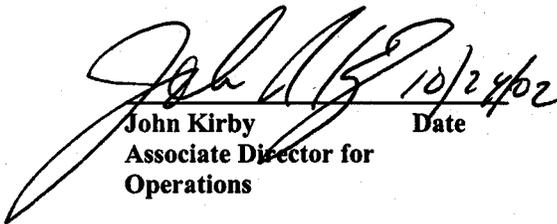
Dan 10/25/02
Daniel E. Glenn Date
Director, Office of Amarillo
Site Operations

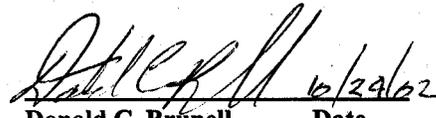
**OFFICE OF AMARILLO SITE OPERATIONS INTEGRATED
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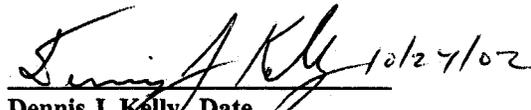
Senior Management Concurrence

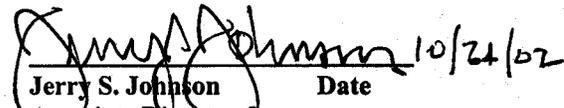

Donald G. White Date 10/23/02
Deputy Director

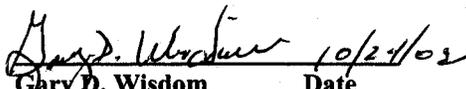

Steven C. Erhart Date 10/24/02
Senior Scientific Technical Advisor


John Kirby Date 10/24/02
Associate Director for
Operations


Donald C. Brunell Date 10/24/02
Associate Director for
Nuclear Engineering


Dennis J. Kelly Date 10/24/02
Associate Director for
Oversight & Assessments


Jerry S. Johnson Date 10/24/02
Associate Director for
Environmental & Site
Engineering Programs


Gary D. Wisdom Date 10/24/02
Senior Technical Security Advisor


Clinton R. Fitts Date
Area Council

REVISION LOG

Revision Number	Affected Page(s)	Date	Reason for Revision
1	9,10,16,17,18, 21,22,23,24,25, 26,27,28,33,34, 35	June 16, 2000	To address Opportunities for Improvement identified during the 2000 Integrated Safety Management Verification
2	Various	October 25, 2002	Periodic review and to reflect changes in responsibilities as a result of the reorganization

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EXECUTIVE SUMMARY

This document describes the Department of Energy (DOE), National Nuclear Security Administration (NNSA), Office of Amarillo Site Operations (OASO) Integrated Safety Management System (ISMS) as a sub-element of the Albuquerque Operations Office (AL) ISMS. The OASO ISMS conforms to the safety management systems described in [DOE P 450.4, Safety Management System Policy](#). The OASO mission is to provide on-site management, day-to-day oversight and surveillance of the Pantex Plant contractors, subcontractors, and operations, and support the accomplishment of NNSA goals.

OASO employees are responsible for the safe administration of contracted work performed by the Management and Operating (M&O) contractor on the Pantex Plant Site. The fundamental premise of the Pantex ISMS is to "Do Work Safely" and the OASO ISMS complements the activities of the Pantex M&O ISMS to ensure that work is indeed performed safely. To help achieve this objective, OASO supports contractor workforce initiatives and involvement in achieving safety excellence. Furthermore, OASO promotes and participates in the M&O contractor's pursuit of the Pantex Voluntary Protection Program (PVPP) as a vehicle to initiate and maintain worker involvement.

The OASO ISMS integrates all the elements of environment, safety, health (ES&H), and quality assurance into a single ES&H and Quality system. This system promotes the full inclusion and integration of ES&H and Quality into the totality of work, such that it is an integral part of the whole -- not a stand-alone program. A worker based safety culture is a total safety culture. This is described succinctly by E. Scott Geller, wherein:

- *Everyone feels responsible for safety and does something about it on a daily basis.*
- *People go beyond the call of duty to identify unsafe conditions and at risk behaviors, and they intervene to correct them.*
- *Safe work practices are supported intermittently with rewarding feedback from both peers and managers.*
- *People "actively care" continuously for the safety of themselves and others.*
- *Safety is not considered a priority that can be conveniently shifted depending on the demands of the situation; rather safety is considered a value linked with every priority given situation.*

From *Working Safe: How to Help People Actively Care for Health and Safety*, E. Scott Geller (Chilton Book Company, 1996).

The OASO Planning Alignment, [AAO 407.1.1](#), process defines the way business is conducted. The *Directives System*, [AAO 103.1.0](#), the *Quality Assurance Program*, [AAO 101.1.0](#), *Development and Production (D&P) Manual*, [AL 56XB](#) and *Quality Criteria*, [QC-1](#), provide key mechanisms that establish rigor and discipline for all OASO operations. Internal work processes are formalized and the conduct of work is

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systematic. The appropriate ES&H "checkpoints" are embedded in work processes to ensure timely acknowledgement of safety implications. The Pantex M&O contract is the mechanism by which OASO enforces requirements about how work is done. Line management responsibility for safety is well manifested in [AAO 103.4.0](#), *Functions, Responsibilities and Authorities Manual (FRAM)*. OASO's organizational structure provides for the clear delineation of roles, responsibilities, reporting, and interfacing relationships. The OASO FRAM is currently being reviewed to ensure that assigned roles and responsibilities accurately reflect the current OASO mission and organizational structure. Recent and possible future organizational changes have not yet been incorporated in the FRAM but are captured in an Albuquerque Operations Office-presented and approved AL1120 process that documents current organizational roles and responsibilities. The extensive OASO oversight program implements the requirements of [DOE P 450.4](#), *DOE Safety Management System Policy*, and provides crucial information and feedback necessary to affect continual improvement.

Safety is an essential element of everything that OASO employees do, beginning with the budget formulation process and ending with field oversight of Pantex work being performed.

PURPOSE

This document describes the overall integrated environmental, safety, health, and quality assurance management system that the OASO federal workforce implements in accordance with [DOE P 450.4](#), *DOE Safety Management System Policy*.

The following sections present the basic structure of the OASO ISMS in terms of the five ISM Core Functions:

- Define the Scope of Work
- Analyze the Hazards
- Develop and Implement Hazard Controls
- Perform Work within Controls
- Provide Feedback and Continuous Improvement.

Important companion documents are the AL and OASO Functions, Responsibilities, and Authorities Manuals (FRAM), AL 1120, and [AAO 103.4.0](#), respectively, as well as [AAO 103.1.0](#), *Pantex Integrated Safety Management System Description, Standards/Requirements Identification Documents, and Directives Review Management Program*. These documents contain significant relevant information about Integrated Safety Management within AL and OASO.

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SCOPE

This document applies to all OASO employees. It does not address the M&O contractor's ISMS Description. The process for reviewing, approving, and maintaining the M&O contractor's ISMS Description is defined in [AAO 103.1.0](#), *Pantex Integrated Safety Management System Description, Standards/Requirements Identification Documents, and Directives Management Program*.

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1.0 Define Scope of Work

The Albuquerque Operations Office (AL) provides the contract authority for the Pantex Plant contract. The OASO Director, through the AL Manager, has administrative authority for the contract in order to achieve Department of Energy, National Nuclear Security Administration mission objectives.

1.1 Pantex Plant Mission

Pantex is the primary nuclear weapons assembly, disassembly, maintenance, modification, and evaluation facility in the United States. The Pantex Plant provides the interim storage and long-term storage of surplus and national security asset plutonium pits, respectively. The Pantex Plant provides fabrication of high explosives for nuclear weapons. Finally, Pantex provides for the demilitarization and sanitization of nuclear weapon components.

1.2 Organization of the Office of Amarillo Site Operations

The OASO FRAM, [AAO 103.4.0](#) defines the safety related organizational structure, mission, and functions that flow down through applicable directives for proper execution of the ISM Functions. Each organization flows down requirements and procedures that are applicable to its area(s) of responsibility. The OASO organizational structure is depicted in Figure 1. AL 1120, AL Safety FRAM, and the OASO FRAM, [AAO 103.4.0](#), outline line management responsibilities including the chain of command, management of departmental programs, and work with respect to OASO and the Pantex Plant.

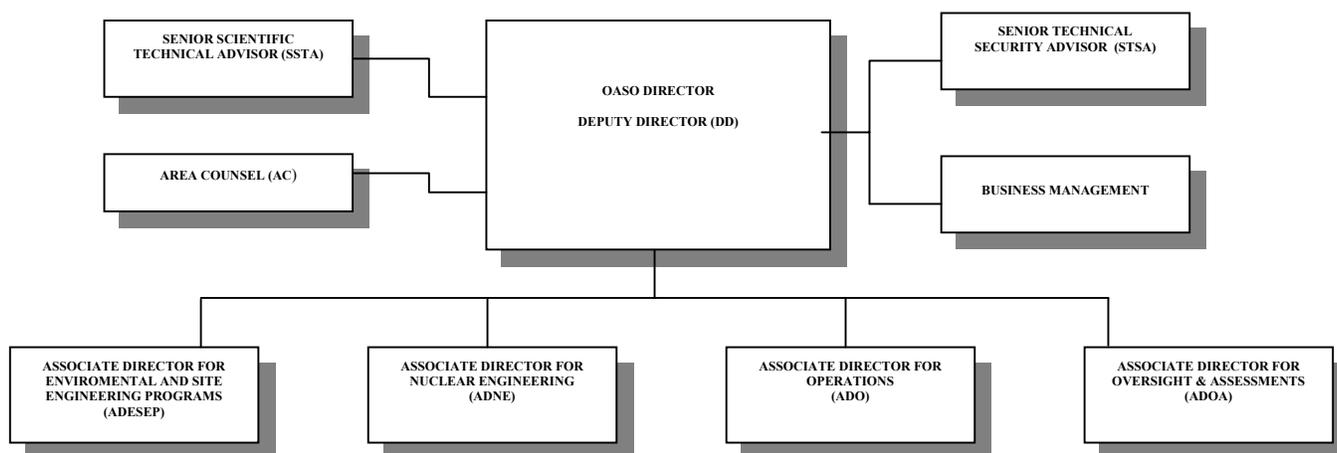


Figure 1. OASO Organizational Structure

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1.2.1 OASO Director

The OASO Director directs a staff of senior management personnel consisting of the Deputy Director (DD), Senior Scientific Technical Advisor (SSTA), Associate Directors (AD), Area Counsel (AC) and the Senior Technical Security Advisor (STSA).

1.2.2 Deputy Director

The DD, in addition to managing the Site Office in the Director's absence, is responsible for the management of many of the OASO's day-to-day operational activities. The DD directs and supervises the Employee Concerns Program, Public Affairs and the OASO training and qualification program. Responsibilities also include oversight of the federal & contractor's training/qualification programs, grants and agreements, directives management, resource management, award fee and performance based incentives, planning and work control, energy management and utilities & business audits. Additionally, the DD signs as the site contracting officer.

1.2.3 Senior Scientific Technical Advisor

The SSTA is responsible for providing the Director technical advice on any area the Director determines is appropriate. The primary responsibilities are lead interface with the national laboratories, security issues with technical aspects of nuclear explosives, DNFSB interface, OASO representative on the AL Senior Safety Advisory Committee, and lead for readiness review activities. The position also provides leadership for strategic initiatives.

1.2.4 Associate Directors

The chain of command breaks into four main areas under the OASO Director . These include the Associate Directors (ADs) for Environmental & Site Engineering Programs, Operations, Oversight & Assessments and Nuclear Engineering. Each AD directs technical and administrative personnel organized into staffs or teams to provide oversight for specific functional areas.

1.2.4.1 Associate Director for Environmental & Site Engineering Programs

The ADESEP is the line manager for environmental restoration activities, environmental protection/compliance, National Environmental Policy Act compliance, waste management, campaigns, Plant Directed Research and Development/Deployment, Work for Others, component disposition, all project management activities, new construction and facility upgrade projects, maintenance, balance of plant (non-nuclear) facility configuration management, utilities, Davis Bacon Act compliance, and Federal Aviation Administration Memorandum of Agreement. The ADESEP is responsible for oversight

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and contract administration, as well as technical support to other organizations within the Office of Amarillo Site Operations.

1.2.4.2 Associate Director for Operations

The Associate Director for Operations (ADO) is the line manager for weapons programs, nuclear material operations, packaging & transportation, high explosive operations and plutonium disposition. The ADO has oversight and contract administration responsibilities for the Tri-Lab Project Office, Master Authorization Agreement, closure of Nuclear Explosive Safety Study (NESS)/Operational Readiness Review findings, Authorization Basis Project Management, the Sandia Weapon Evaluation & Test Laboratory, weapons & operations quality, non-proliferation and liaison with the United Kingdom.

1.2.4.3 Associate Director for Oversight and Assessments

The Associate Director for Oversight and Assessments (ADOA) is responsible for the Facility Representative, Federal and Contractor Integrated Safety Management (ISM), and Federal and Contractor Occupational Safety & Health programs. The ADOA is also responsible for the OASO Self-Assessment Program and the Integrated Assessment Program, oversight and contract administration, as well as technical support to other OASO organizations, in the areas of: Conduct of Operations, DOE EH Program Office liaison, performance indicators, nuclear explosive safety, explosive safety, occupational safety, radiation safety, nuclear safety, construction safety, firearms safety, occupational medicine, industrial hygiene and the Price Anderson Amendments Act program.

1.2.4.4 Associate Director for Nuclear Engineering

The Associate Director for Nuclear Engineering is responsible for providing day-to-day oversight of the contractor's development and implementation of AB documents, Fire Protection Engineering, System Engineering, Nuclear Explosive Safety (NES), and nuclear engineering functions for systems important to safety. Oversight responsibilities include ensuring the contractor properly manages and plans AB development, performs hazard/accident analysis, develops and implements controls, and maintains change control to keep the AB up-to-date (Unreviewed Safety Question (USQ) process), review and recommend approval of fire protection equivalencies and exemptions, oversight of the contractor systems engineering program, evaluate vital safety system functionality and reliability, review and approve changes affecting NES, and plan and coordinate NES group activities.

The Nuclear Explosive Safety (NES) Team provides day-to-day oversight per AL/SD 452.2B of the contractor implementation of the NNSA Nuclear Explosive and Weapon Surety program. The NES Team staff evaluates the adequacy of controls associated with, tooling, testers, facility interfaces, and operational processes to prevent and /or minimize

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the consequences of an accident involving nuclear explosives. When changes to an approved nuclear explosive process occur, NES joint reviews (NES change control) are conducted to evaluate the hazards and controls to determine if they are a threat to nuclear explosive safety.

1.2.5 Senior Technical Security Advisor

The STSA is the line manager for safeguards and security and information management. The STSA is also responsible for oversight and contract administration, as well as technical support to other OASO organizations, in the areas of: Work Authorization Directives, emergency preparedness and the Personnel Assurance Program.

1.2.6 Roles and Responsibilities

Clear roles and responsibilities are established in the OASO FRAM, [AAO 103.4.0](#), which contains details on all internal (Federal) safety-related functions, responsibilities, and authorities at OASO. (The OASO FRAM is in line to be updated after the NNSA Reengineering effort completes.) Performance requirements, roles, and responsibilities contained in the FRAM are delineated further in employee position descriptions (PDs). Supervisors review PDs for affected employees to determine if responsibilities are adequately addressed.

The DOE-AL Supplemental Directives System coupled with OASO procedures are the formal process used to establish the OASO authorities, responsibilities, local guidance and local direction. This system provides for the establishment, application and management of the Directives and local procedures developed and used at the Pantex to supplement the DOE Headquarters (HQ) directives system. The OASO works as an administrative arm to the AL Supplemental Directive System by directing the contractor to implement requirements that are deemed applicable and balancing work priorities based on funding constraints. The OASO Procedures system is formalized in [AAO 104.1.1](#), *Procedure Development, Control and Issuance*.

1.3 NNSA Process for Defining Pantex Workload

The purpose of planning alignment is to integrate requirements so that missions are translated into work completed by the contractor within available budget and resources. Planning activities are aligned through a comprehensive set of Standards/Requirement Identification Documents (S/RIDs) that are included in the Pantex M&O contract. AL supplemental directives and OASO procedures define philosophies, expectations, requirements, and processes that are used by OASO employees in executing their oversight of contractor activities. The DOE/NNSA Headquarters issues planning, priorities, and funding targets to the Pantex M&O contractor. These documents are based on DOE/NNSA Strategic Plans, Department of Defense customer requirements (Program

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Control Document), regulatory and Defense Nuclear Facilities Safety Board commitments and community considerations.

The NNSA implemented the Planning, Programming, Budgeting and Evaluation (PPBE) Process beginning with the FY2004 budget cycle. NNSA is also in the process of reengineering with an implementation date of December 15, 2002. Both the PPBE and the reengineering are redefining the processes for communicating priorities, defining the scope of work, resource planning and budgeting, and feedback.

The OASO participation in the NNSA PPBE process is continual. As line managers for NNSA programs, projects and business functions, OASO provides continuous feedback to HQ and AL Service Centers regarding plant operations and issues. The OASO Senior Managers participate along with HQ, Program Managers, Labs and Plants to draft Program/Campaign/RTBF plans based on a common set of strategic priorities and assumptions. These plans are the basis for updating the Future Years Nuclear Security Program, the document submitted with the President's Budget Submission each year.

1.4 Pantex Site Resource Planning

Preliminary resource requirements are developed by the contractor to accomplish the workload as defined in the Program/Campaign/RTBF Plans. The site resources planned are people, skills, infrastructure, facility capabilities, and facility capacity translated into dollars for operating and capital budget requests. The resources are planned within the constraints defined by Pantex environmental, safety, and health basis as described in Sections 2 through 4 of this document and in accordance with the prime contract.

Any issues (as a result of limited resources) are brought to NNSA's attention as a Requirement Over Target (ROT) during the programming and budgeting phase. In the year of execution, any new NNSA requirements are communicated to the contractor by the Contracting Officer. The contractor must analyze the impact to plant resources and notify the OASO of any new ROT in order to do unanticipated work. Implementations that change the scope, deliverables or period of performance are presented to the OASO Change Control Board for approval. HQ Program Offices are consulted if there are impacts to Programs.

1.5 PPBES HQ/Site Interface

Inputs:

- NNSA Strategic Plan
- 5 Year Program & Fiscal Guidance- based on President's budget
- Future Year Nuclear Security Program (FYNSP) – updated from site FYNSP+1 submission

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- Pantex Ten Year Comprehensive Site Plan (TYCSP)
- Program Specific Integrated Plans – DPIP, Campaigns, SSSP, etc.
- Program Decision Memorandum – NNSA priorities and funding targets communicated to sites
- Field Budget Call
- Program Performance Priorities and Deliverables
- Program Control Documents (PCD)
- Work Authorizations

Outputs at the site level:

- FYNSP + 1
- TYCSP + 1
- Project plans for scheduling and resource loading (Primavera)
- Budget Submission
- Work Authorization Directives (WADs)
- Priority Decrement List (PDL)
- OASO Operational Plans – update

All inputs and outputs are updated annually as NNSA progresses through the PPBE cycles. The FYNSP is the basis for preparing out year resource plans (programming phase), the Program Decision Memorandum is the basis for the budget submission for the Office of Management and Budget, and the President’s budget along with program priorities are the basis of site WADs and Work Authorizations. If Congressional appropriations are not consistent with the President’s budget the WADs and WAs may need to be revised for additional work funded by plus ups or for funding levels lower than the targets.

As each of the planning documents is updated, NNSA priorities must be aligned with the resources. The M&O contractor is responsible for resource loading the workload in compliance with all safety, health, environment and administrative requirements in accordance with the Prime Contract. The M&O contractor planning must also allow for the same disciplines by its subcontractors. Through day-to-day line oversight, OASO verifies that the contractor meets ES&H requirements.

1.6 Competence Commensurate with Responsibility

OASO addresses the guiding principle of *Competence Commensurate with Responsibilities* through [AAO 103.4.0](#), the OASO FRAM and [AAO 102.1.0](#), the OASO *Qualification and Training Program*. [AAO 102.1.0](#) is being evaluated for the need to retain and/or update. The OASO FRAM provides for clear delineation of roles, responsibilities, reporting, and interfacing relationships. The qualification and training

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program ensures that OASO employees have the skills and knowledge necessary to fulfill their assigned responsibilities.

OASO’s process for assuring that all employees have competence commensurate with their responsibilities begins when a manager or supervisor identifies the need to fill or create a position. The manager/supervisor defines the roles and responsibilities of the position and identifies the knowledge, skills, and abilities to do the job. These attributes are documented in a formal position description (PD). Classification of the position is referred to the AL Office of Human Resources and Training (AL-OHRT) to determine the minimum education and technical qualification requirements. Specific job-related specialized experience, selective placement factors, and physical requirements that are required for minimum competence in the position are then established. Ranking factors are used to distinguish which applicants are best qualified.

The OASO Training Officer is responsible for management of the OASO Training and Qualification Program in accordance with the OASO training and qualification procedure, [AAO 102.1.0](#), *Qualification and Training Program*. This procedure outlines the interface between the Training Officer and AL-OHRT. This procedure also outlines the duties, responsibilities and authorities of OASO personnel for the training and qualification program. Figure 2 provides a graphical illustration of the OASO training and qualification process.

Formal training and qualification requirements are established for all OASO technical positions. These technical employees have 18 months from the date of assignment to a new position to complete the Technical Qualification Program (TQP) for that position. Qualification and training requirements are based on a Job Task Analysis (JTA) or tabletop job analysis. Supervisors conduct an initial evaluation of each employee’s competencies against competency requirements to identify training needs. The supervisor notifies the Training Office of the training needs and subsequently monitors and reports to the Training Office on their progress toward meeting training and qualification requirements. The supervisor determines the need for written or oral examinations to assure mastery of the competencies identified in the Qualification Standards. A passing grade of 80% is required. If an employee fails to satisfactorily complete a qualification competency, the supervisor administers remedial training and re-testing as required.

Each OASO employee who is designated to participate in the TQP must complete the applicable qualification standard.

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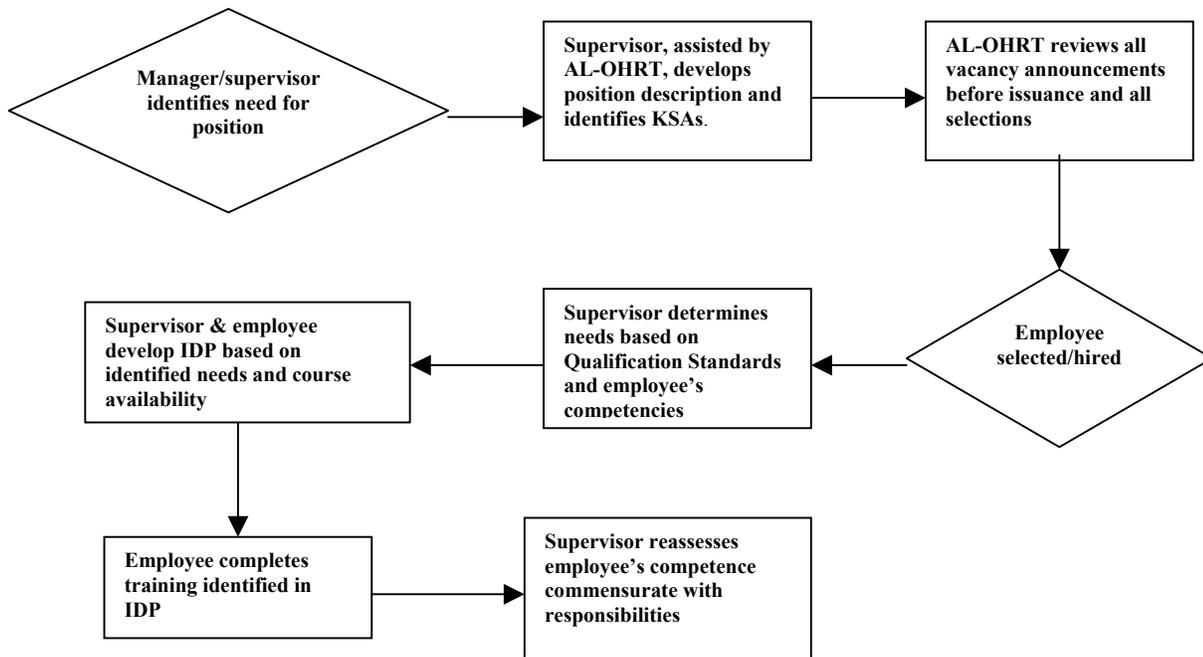


Figure 2. DOE-AL/OASO TRAINING AND QUALIFICATION PROCESS

1.6.1 Facility Representative Training and Qualification Program

The OASO Facility Representative (FR) Technical Qualification Program is described in Procedure [AAO 511.1.0](#), *Facility Representative Program Manual*. The OASO FR training and qualification program consists of two phases, which like the Technical Qualification Program, must be completed within 18 months. Phase I is general knowledge requirements and Phase II is site specific requirements.

The candidate must pass a comprehensive written examination upon completion of the training requirements of the Phase I qualification card. Once Phase I qualified, the FR candidate is qualified to review and process occurrence reports, perform facility tours and field observations, and write field observation reports. In addition, the FR candidate usually qualifies as Duty Officer during this period ([AAO 123.1.0](#), *Duty Officer*).

The FR candidate then completes the training requirements of the Phase II qualification card, followed by a comprehensive written examination and formal facility walkthroughs. Finally, a Technical Qualifications Review Board is convened to examine the candidate's technical qualifications. Upon completion of the oral board, the FR is considered to be fully qualified to perform general duties and the duties of his/her functional area(s) without restriction.

Each qualified FR is required to perform their duties for at least forty hours per calendar quarter in order to maintain proficiency. Additionally, each FR must requalify every

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three years. Requalification requires the FR to participate in the FR Continuing Training program ([AAO 511.1.3](#), *Facility Representative Continuing Training*) during the three-year period and then pass a comprehensive written examination.

1.6.2 Oversight of Contractor Training and Qualification

The OASO has relied on AL-OHRT for most of its oversight of the M&O contractor’s training and qualification program. [AAO 110.1.4](#), *Oversight of Contractor Training Program*, describes the OASO process for ensuring that M&O contractor competence is commensurate with responsibilities. [AAO 110.1.4](#) is being evaluated for the need to retain and/or update. OASO oversight in this area is focused on day-to-day operations [Facility Representative and other Subject Matter Expert (SME) observations] or activity startups and is primarily performance-based.

2.0 Analyze Hazards

OASO personnel are involved at the site, facility, and activity level of hazards analysis at the Pantex site.

2.1 Site Level

The Sitewide Environmental Impact Statement analyzes the hazards present and establishes the operating envelope (in terms of material limits, operational boundaries, and exposure thresholds) necessary to protect the public and environment from Pantex operations. Permits from the Texas Commission on Environmental Quality (TCEQ), which are based on a hazard analysis, establish the regulatory limits for emissions from operations.

The *Pantex Emergency Hazard Assessment* (PEHA) provides the basis for the site Emergency Management Program. The PEHA considers the hazardous materials on the Pantex Plant in terms of the type, the quantity that could be present at each facility, the probability of a release to the environment, and the confinement of the release. The individual facility assessments contained in the PEHA allow for the development of emergency response plans and for the rapid classification of accidents, based on potential consequences, so that prompt corrective or mitigative actions can be implemented.

OASO provides day-to-day and programmatic oversight of the site-wide OSH programs. Procedure [AAO 114.1.0](#), *OASO Self Assessment Program* identifies the responsibilities and methodology to conduct contractor functional area oversight assessment and internal self-assessments to identify and correct problems that hinder the achievement of mission and safety objectives at Pantex. This self-assessment program identifies areas to focus improvement efforts and provide a continuing basis of confidence that Pantex functional areas and internal OASO activities meet applicable and necessary requirements (orders,

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standards, regulations, etc.). Additionally, OASO Safety & Health Staff and Facility Representative Staff prepare annual assessment plans to evaluate various aspects of OSH and Conduct of Operations program implementation. OASO Weapons Quality Staff perform similar evaluations for their responsibilities. These assessment schedules are then used as inputs to the overall OASO Assessment Schedule maintained by ADOA.

2.2 Facility Level

2.2.1 Nuclear Facility Hazards Analysis

The OASO Director is the approving official for all Pantex authorization basis documents. The ADNE Staff act as independent agents for the OASO Director ensuring the contractor identifies all hazards and adequately analyzes them. The ADNE staff also support ADOA line management in ensuring AB is developed to support nuclear facility operations. For nuclear facilities, the contractor is required to develop a safety analysis report meeting the requirements of 10 CFR 830, *Nuclear Safety Management* and [DOE-STD-3009-94](#), *Preparation Guide for U. S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports*. The M&O contractor is in the process of preparing a single Safety Analysis Report (SAR) for all nuclear facilities. The ADNE Staff role is to provide day-to-day oversight of the contractor's work in developing and maintaining these documents, to review the documents for NNSA approval and to prepare a Safety Evaluation Report documenting the technical basis for approval. The ADNE Staff performs this role for the OASO Director and the line managers with the assistance of OASO SMEs and outside experts as necessary (National Laboratories and other DOE/NNSA sites or support contractors). [OASO 106.1.0](#), *Safety Basis Documentation Program* provides instructions for the oversight, review, maintenance and approval of Pantex Plant authorization basis documents.

2.2.2 Explosive Facility Hazard Analysis

Hazard analysis for Pantex explosive operations and facilities is based on the requirements of [DOE M 440.1-1](#), *DOE Explosives Safety Manual* and 29 CFR 1910.119, the Process Safety Management of Highly Hazardous Chemicals. A Process Hazard Analysis (PHA) is required for all explosives operations. The facility PHA, which is based on the PHAs performed for the individual operations conducted within the facility, represents the safety basis for hazardous non-nuclear facilities. PHAs for all hazardous non-nuclear facilities are performed and approved by the M&O contractor. M&O contractor readiness assessments for explosive facilities are performed against the applicable PHA. The OASO ADO, as the line manager for high explosive operations, and in consonance with ADOA, is responsible for providing oversight of the PHA process and implementation of controls associated with these facilities.

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2.3 Activity Level

2.3.1 Nuclear Explosive Hazard Analysis

Hazard analysis for weapons programs is based on the requirements of [DOE O 452.1B](#), *Nuclear Explosive and Weapon Surety Program*, [AL SD 452.1B](#), *Nuclear Explosive and Weapon Surety Program*, [Technical Business Practices \(TBP\) 901](#), *Integrated Safety Process for Nuclear Weapon Operations and Facilities*, and Chapter 11.4 of the *Development and Production Manual, Development Of Documented Safety Analyses, Technical Safety Requirements, Unreviewed Safety Question Determination, Justification For Continued Operations and Authorization Agreements For Nuclear Explosive Operations and Facilities at the Pantex Plant*. The hazards associated with specific weapon operations are analyzed, using the guidance provided by [DOE-DP-STD-3016-99](#), *Hazard Analysis Reports for Nuclear Explosives Operations*, in the Hazard Analysis Report (HAR). Activity Based Controls Documents (ABCD) identify the most significant controls relied upon for the accident scenarios analyzed in the HAR. The ABCD's are in the process of being replaced by TSR appendices for the specific weapon programs. On March 9, 2000 approval authority for weapons program specific authorization basis documents (HAR and ABCD) was delegated from the AL Manager to the OASO Director. The details of the OASO responsibilities have been formalized in [OASO 106.1.0](#), *Safety Basis Documentation Program*.

The NES Team reviews hazard analysis (HA) as input documentation for Nuclear Explosive Safety Studies in accordance with DOE-STD-3015 for nuclear explosive operations and associated activities, and determine the adequacy of safety controls commensurate with the identified accident scenarios that have the potential to result in nuclear detonation, high explosive detonation or plutonium dispersal.

2.3.2 Explosive Hazard Analysis

Hazard analysis for Pantex explosive operations is based on the requirements of [DOE M 440.1-1](#), *DOE Explosives Safety Manual*, and 29 CFR 1910.119, *Process Safety Management of Highly Hazardous Chemicals*. A PHA is required for all explosives operations. The PHA is performed by a multi-discipline team and led by a certified Team Leader. The methodologies used for the PHA can include Event Tree analysis; Fault Tree analysis; What-if analysis; Checklist; Preliminary Hazard Analysis; Hazard and Operability Study; and Failure Modes, Effects and Criticality Analysis. The PHA report identifies action items, recommendations, and observations, which must be addressed by management. PHAs for explosive operations are developed and approved by the M&O contractor. The OASO ADO, as the line manager high explosive operations, and in consonance with ADOA, is responsible for providing oversight of the PHA process and ensuring that the hazards associated with these operations have been adequately analyzed and mitigated.

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2.3.3 Environmental Hazard Analysis

Hazard analysis for Office of Environmental Management (EM) facilities is performed in accordance with [DOE Order 430.1A](#), Life Cycle Asset Management. For all the remaining facilities, OASO has institutionalized the process of environmental aspect/impact determination during the planning stages for all proposed project and program activities. The primary tool for evaluating environmental hazards is the National Environmental Policy Act (NEPA), which is unique to the federal sector. In addition to the actual NEPA statute, DOE codified NEPA regulations and issued a NEPA Order ([DOE O 451.1B](#), *NEPA Compliance Program*). OASO has developed one NEPA procedure ([AAO 101.2.0](#), *National Environmental Policy Act (NEPA) Compliance Management*). An extensive NEPA Checklist is the fundamental tool that initiates the environmental review process for all Pantex work. OASO makes commitments in Environmental Assessments and Environmental Impact Statements to mitigate the potential environmental impacts of all Pantex activities.

The NEPA Compliance Officer administers the OASO NEPA Compliance Program. In addition, OASO Area Counsel provides legal counsel and NEPA support. All operations, programs, projects, products, services, and activities are subject to the OASO NEPA process.

OASO administers and oversees several monitoring programs that function to identify potential impacts and effects of Pantex operations on the environment. [DOE Order 5400.1](#), *General Environmental Protection Program* and [DOE Order 5400.5](#), *Radiation Protection of the Public and the Environment*, establish environmental monitoring requirements and have been adopted and implemented by OASO.

The Pantex Environmental Monitoring Program is composed of comprehensive on-site environmental surveillance for all media and effluent monitoring and is conducted in accordance with the *Pantex Plant Environmental Monitoring Plan* and the *Pantex Groundwater Protection Management Plan*, which are developed by the M&O contractor and approved by the OASO. The data from the monitoring program is published quarterly in a series of *Pantex Plant Environmental Monitoring Data Compilations* volumes and are summarized in this report.

Wastes and emissions are key potential environmental and safety hazards. [DOE Order 5400.1](#), *General Environmental Protection Program* mandates the establishment of a Pollution Prevention (P²) program. DOE defines "environment" as including "waste minimization and P²." The OASO Environmental Compliance Staff (ECS) oversees the Pantex P² program. The ECS and the Business Management Team jointly oversee the M&O contractor's affirmative procurement program. The objectives of the Pantex Plant's P² program are to reduce or eliminate waste generation and pollutant releases; to reduce environmental impacts/risks; to reduce mortgage and support costs; to increase

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purchases of recycled materials; and to institutionalize pollution prevention. The *Pantex Plant P² Program Five Year Plan* outlines the overall Pantex Plant P² program. OASO line management supports the *Pantex Plant P² Program Five Year Plan* through participation and overseeing work planning activities and promoting the integration of P² opportunities.

2.3.4 Federal Employee Occupational Safety & Health (FEOSH)

The ADOA is responsible for assigning a FEOSH Manager from the Safety & Health Staff to work with Federal employees on FEOSH concerns. OASO employees primarily rely on the M&O contractor's occupational safety and health program to address workplace hazards. A facility or building manager is responsible for the physical condition of each of the facilities housing OASO personnel. Federal employees at Pantex attend the same General Employee Training (GET), both initial and annual refresher, as contractor employees. GET requirements are tailored to the employee's duties, including assignments to emergency response organizations. OASO personnel are required to comply with all contractor safety and personal protective equipment (PPE) requirements for entry into hazardous areas. OASO employees and support contractors whose jobs require entry into radiological control areas must attend and successfully complete the M&O contractor's Radiation Worker Training. Most Federal employees at Pantex are in the Personal Assurance Program (PAP), which requires a comprehensive annual physical, psychological examination, and drug screening. The OASO Safety and Health Staff are responsible for monitoring the Federal Employee Occupational Safety & Health program in accordance with the requirements of 29 CFR 1960, Basic program elements for Federal employee occupational safety and health programs and related matters; [DOE O 440.1A](#), *Worker Protection Management for DOE Federal and Contractor Employees* and [DOE Order 3790.1B](#), *Federal Employee Occupational Safety and Health Program*.

2.4 Change Control

To ensure that changes to nuclear explosive operations or facilities do not introduce new hazards or increase the risk associated with an existing hazard, all proposed changes to nuclear explosive operating procedures, tooling/equipment, or facilities are evaluated through the M&O contractor's Unreviewed Safety Question (USQ) process. The USQ process addresses the requirements of 10 CFR 830.203, USQ Process, for facilities; and the Development and Production Manual Chapter 11.7, *Nuclear Explosive Operations Change Control Process*, for nuclear explosive operations. The OASO Authorization Basis Staff monitors the M&O contractor's USQ program and evaluates the adequacy of USQ determinations in accordance with [OASO 106.1.0](#), *Safety Basis Documentation Program*. Changes to nuclear explosive operations are reviewed by the OASO Nuclear Explosive Safety Team, in accordance with [AAO 105.2.0](#), *Nuclear Explosive Safety*, to ensure that the change is approved at the appropriate DOE or contractor level. [AAO 105.2.0](#) is being evaluated for the need to retain and/or update.

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For explosives operations, a process similar to the USQ process for nuclear facilities is used to ensure that the controls identified in the PHA are maintained.

The OASO NES Team reviews changes to nuclear explosive operations and participates in Joint NES Review Team evaluations when changes are determined to be beyond a trivial change, in accordance with D&P Manual Chapter 11.7. When proposed nuclear explosive operations have not been previously approved, OASO NES Team staff participates as a NES Safety Group certified member on NNSA NES Studies in accordance with DOE-STD-3015.

3.0 Develop & Implement Controls

3.1 Identification of Safety Standards and Requirements

Currently, OASO has one mandatory Executive Policy, [OASO-00-1](#), *Protection of Plant Employees, the Public, and the Environment*, that describes the philosophy and key fundamental values affecting OASO employees in the ES&H area. A copy of this policy is included as an attachment to this document.

The DOE Directives System includes the Contractor Requirements Document Process (CRD). This process is used to implement new DOE or AL Directives. The process provides a uniform and documented method of ensuring the timely and efficient transition or application of requirements to the Pantex M&O contractor. All Directives that contain contractor requirements applicable to the Pantex M&O contractor are to be listed in Section J - Appendix E of the M&O contract. Currently, not all Directives containing contractor requirements are specifically listed in the contract, Section J - Appendix E. Some orders are indirectly listed in that they are referenced in one of the S/RIDs.

At Pantex, an essential component of the ISM System is the identification of Mission Support and Hazard Controls S/RIDs, which provide assurance that the public, employees, and the environment are adequately protected from the hazards associated with the operations performed at the Pantex Plant. The S/RID program is used to identify the specific set of standards and requirements that will be applied to the conduct of Pantex Plant activities and operations. Standards are drawn from a number of sources, including Federal, state, and local laws; DOE and AL Directives; and consensus codes and standards. The S/RIDs currently in use at Pantex are the Management Integration and Controls (MIC), [MIC-1000](#); Fire Protection, [HC-2100](#); Radiation Protection, [HC-2210](#); Criticality Safety, [HC-2220](#); Occupational Safety and Health, [HC-2300](#); Off-Site Packaging and Transportation, [HC-2500](#); On-Site Packaging and Transportation, [HC-2600](#); Emergency Management, [MS-3100](#); Facility Engineering and Construction, [MS-3210](#); Maintenance, [MS-3300](#) and Environmental Management, [MS-3400](#). The AL Manager approved the initial MIC S/RID. Revisions to the MIC S/RID and all Pantex functional area S/RIDs are approved by the OASO Director and invoked through Appendix E of the M&O Contract.

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The MIC S/RID, [MIC-1000](#), is the site-level document establishing the programs that the M&O contractor is to follow in the performance of work. It is structured into seven core safety functions of: Define Scope of Work; Analyze Hazards; Identify Controls; Implement Controls; Confirm Readiness; Perform Work; and Provide Feedback and Improvement. A performance objective is established for each core safety function. Each core safety function is further subdivided into four categories. The four categories, which address each major Pantex mission, are General (i.e., applies to all Pantex Plant operations and activities), Nuclear Weapons, Explosives and Nuclear Material. Performance criteria and the adopted standards/requirements are specified for each of the four mission categories within each core safety function.

Administrative and Performance Validations of M&O contractor operations are performed by OASO Subject Matter Experts (SMEs) to verify the implementation of identified standards and requirements. The purpose of the Administrative Validation is to ensure that Pantex implementing documents, such as Plant Standards and Internal Operating Procedures, adequately implement the standards and requirements identified in the S/RIDs. The Performance Validation provides assurance that the actions and conditions specified in the implementing documents are being performed or adhered to.

3.2 Identify Controls to prevent or mitigate hazards

3.2.1 Site/Project Level

The OASO Construction Project Management process is fully institutionalized. Safety is fully integrated into all project activities. Full integration means starting safety evaluations and implementation during Conceptual Design, and continuing through completion of the project. It also means integration of project activities with plant and operating facility activities.

In project design and construction management, planned safety activities are documented in the Project Execution Plan, along with other baseline and management planning. This critical plan is where project specific safety considerations are documented. The Project Execution Plan includes a determination of which requirements are applicable and how safety issues will be managed by the project.

For projects governed by certain external environmental regulations; or with significant, numerous, or complex safety hazards; a Health and Safety Plan (HASP) is generally prepared. If a HASP is not written, then the OASO Project Manager ensures that every element of the HASP is captured in another project safety document. A HASP includes input from all the appropriate safety disciplines. The HASP is started with the conceptual design, with more details being provided as the project progresses through Title I and II design, and is completed prior to the start of field activities. Prior to work starting (and after Bid Award), the site Management and Operating (M&O) Contractor Project

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Manager and Safety groups and subcontractors do a final pre-job walk down to perform detailed Job Hazard Analysis. Any safety and health concerns from the JHA are resolved prior to work starting. The OASO Project Manager is responsible to ensure that the HASP is properly prepared, approved, and implemented.

Prior to the December 2001 OASO reorganization, the OASO Construction Project Manager safety responsibilities are addressed in [AAO 110.1.1](#), *Construction Project Safety and Health Oversight* and the OASO Project Managers safety responsibilities are addressed in [AAO 106.5.0](#), *OASO Project Management System*. [AAO 110.1.1](#) is being evaluated for the need to retain and/or update. From the OASO reorganization, the Construction Safety duties were transferred to Safety & Health Staff/OASO. The Construction Safety duties are now being performed in consonance with the practices contained in [AAO 510.6.0](#), *Oversight of the Contractor's Safety & Health Programs*.

3.2.2 Nuclear Explosive & Nuclear Material Operations

Technical Safety Requirements (TSRs), based on Basis for Interim Operations (BIOs) and SARs, are developed in accordance with 10 CFR 830, *Nuclear Safety Management*. They are used to define the engineered and administrative controls relied upon to protect the health and safety of the workers, public, and environment from the hazards associated with nuclear explosive and nuclear material operations. TSRs also define the surveillance requirements necessary to ensure the integrity of the controls. TSRs are reviewed and approved by the OASO in accordance with [OASO 106.1.0](#), *Safety Basis Documentation Program*.

Activity Based Controls Documents (ABCDs) contain process-specific TSRs for weapons operations. ABCDs are used to document the safety limits, surveillance requirements, limiting conditions for operations, and administrative controls relied upon to prevent or mitigate the consequences of accidents uniquely associated with a specific nuclear explosive operation. In addition to describing the controls, the ABCD provides the technical basis for the selection of controls. Whereas the TSRs are based on the BIO, the controls identified in the ABCD are derived from the analysis performed in the Hazard Analysis Report (HAR). The ABCD's are in the process of being replaced by individual TSR appendices for each weapons program. The OASO Director has been delegated approval authority for HARs and ABCDs.

The ADNE Staff reviews and recommends approval of the engineered and administrative controls developed to mitigate these hazards as well as the implementation plan to ensure the controls are properly implemented.

The OASO NES Team reviews ABCDs as input documentation to Nuclear Explosive Safety Studies to determine the adequacy of controls, in accordance with DOE O 452.2B and ALSD 452.2B.

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3.2.3 Explosives Operations

29 CFR 1910.119, *Process Safety Management of Highly Hazardous Chemicals*, is used to define the controls needed to safely operate explosive facilities and processes. A PHA is performed for each explosive operation. The PHA evaluates the adequacy of the hazard controls for the operation and makes formal recommendations or assigns action items when additional controls are required to provide adequate worker safety. The M&O contractor approves PHAs for all explosives operations. The OASO ADO (in consonance with the ADOA Explosive Safety Staff) is responsible for providing oversight in this area to ensure that the hazards associated with these operations have been adequately addressed.

3.2.4 Balance of Plant Activities

The hazard controls for balance of plant activities such as routine maintenance and common industrial activities are identified either through a Job Safety & Health Analysis (JSHA), which is required for all work activities, or the work planning process. The Occupational Safety and Health S/RID, [HC-2300](#), in addition to any supplemental requirements imposed through safety work permits or work control packages, identify the controls required for these activities. The appropriate AD is responsible for oversight of balance of plant activities.

3.3 Implement Controls

Due to the diverse nature of the hazards associated with the operations performed at Pantex, different mechanisms, depending upon the hazard involved or the level of the activity, are used to tailor hazard controls to the work being performed. Each OASO AD is responsible for ensuring that the M&O contractor adequately implements controls derived from hazard analyses for activities under their cognizance.

A variety of processes are utilized to ensure the adequate implementation of hazard controls. Readiness reviews and assessments are conducted to ensure the initial implementation of controls for nuclear material, nuclear explosive, and explosive operations. Performance-based assessments, in accordance with [AAO 110.2.1](#), *Amarillo Area Office Assessment Program*, are performed to evaluate the safety of operations and to verify the implementation of corrective actions. On a day-to-day basis, the continued implementation of controls is validated through field observations by Facility Representatives and Subject Matter Experts.

The OASO NES Team Staff evaluates the implementations of controls for nuclear explosive operations to determine if corrective actions are adequate to close NES pre- and post-start findings in accordance with AL SD 452.2B.

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4.0 Perform Work

4.1 Confirm Readiness

OASO controls the start-up and restart of nuclear facilities by conducting Line Management Assessments, Operational Readiness Reviews, and Readiness Assessments in accordance with [DOE Order 425.1B](#), *Startup and Restart of Nuclear Facilities*, and [AAO 115.1.0](#), *Startup and Restart of Pantex Plant Activities*. Three types of review processes, based on the nature and magnitude on the hazards involved, are used to verify readiness to start or restart Pantex activities. Operational Readiness Reviews (ORRs) are performed for Category 2 and 3 nuclear facilities. Readiness Assessments (RAs) are performed for nuclear weapon startups. RAs are also performed for Category 3 nuclear activities and high or moderate hazard non-nuclear activities. Qualification Evaluations or Nuclear Explosive Safety Studies are also performed for required weapon operations. OASO personnel participate in ORRs led by AL or HQ.

The Nuclear Explosive Safety Study Group (that includes an OASO certified NES Team Staff member) reviews nuclear explosive operations to determine if the proposed operations, facilities, or associated activities meet the three NES Safety Standards before operations can begin.

The Senior Scientific Technical Advisor manages the OASO Readiness Review Program. The OASO ADO is responsible for developing Plans of Action for readiness reviews performed for nuclear material handling and storage facilities; moderate hazard non-nuclear facilities (i.e., high explosive facilities) and nuclear explosive operations. Startup responsibility for low hazard non-nuclear facilities and operations has been delegated to the M&O contractor.

4.2 Operations Authorization

The Prime Contract provides the legal authorization for the planning and conduct of work at the Pantex Plant. The contract includes safety controls for all work that are derived from DOE Orders and other regulations invoked by the contract, either directly or through the S/RIDs and implemented by the M&O contractor through company level standards and procedures. Upon assignment of funding through the Approved Funding Plan (AFP), the Work Authorization Directives (WADs) and the Work Authorizations authorize the M&O contractor to perform the defined scope of work for most Pantex Plant activities. However, for nuclear material and nuclear explosive operations, the contract requires DOE approval for startup (or restart) in accordance with [DOE Order 425.1B](#), *Startup and Restart of Nuclear Facilities*. DOE approval is also required for initial startup of high explosive facilities or, restart under certain conditions specified in [AAO 115.1.0](#), *Startup and Restart of Pantex Plant Activities*.

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DOE-AL and OASO authorize the startup and continued operation of hazardous facilities (Category 2 nuclear facilities and moderate or high hazard non-nuclear facilities), weapon program startups, and the startup of other facilities or activities, as directed, through Authorization Agreements (AA), in accordance with [AAO 103.2.0](#), *Authorization Agreements*. AAs, which are documented agreements between DOE and the Pantex M&O contractor, describe the terms and conditions under which the contractor is authorized to perform work. An authorization agreement is a binding provision of the contractor's contract with DOE-AL. AAs commit the contractor to performing the specified work in accordance with safety terms and conditions for ensuring the safety of the public, workers, and environment that have been mutually agreed upon. To streamline the process, a Master AA, covering all Category 2 Nuclear Operations has been developed for the Pantex Plant. The Master AA defines the framework for authorizing Category 2 Nuclear operations; requesting changes to covered operation; defining operation-specific terms and conditions; establishing prerequisites for demonstrating that the conduct of proposed operations is adequate to protect the public, workers, and the environment; administering and reporting exceptions, deviations, and non-conformances; and starting and restarting operations. Prior to signing an authorization agreement, OASO reviews the controls identified in the draft agreement and the authorization basis for the activity/facility. The following table identifies the approval authorities and the type of readiness review required for each type of activity performed at Pantex.

	HAZARD CATEGORY 2 Nuclear	HAZARD CATEGORY 3 Nuclear	MODERATE HAZARD NON-NUCLEAR	MODERATE HAZARD NON-NUCLEAR
Initial Startup (new facility)	Secretary of Energy Or Designee [ORR]	AL Manager [ORR]	OASO Director [RA]	M&O Contractor
Unplanned shutdown directed by DOE Management	AL Manager or OASO Director [ORR] or [RA]	AL Manager or OASO Director [ORR] or [RA]	OASO Director [RA]	OASO Director
Extended Shutdown (>12 months)	AL Manager [ORR] or [RA]	AL Manager [ORR] or [RA]	M&O Contractor	M&O Contractor
Substantial facility modifications	OASO Director [ORR] or [RA]	OASO Director [RA]	M&O Contractor	M&O Contractor
Operation outside authorization basis	OASO Director [ORR] or [RA]	OASO Director [RA]	Not Applicable	Not Applicable

4.3 Perform Work Safely

OASO personnel perform a variety of oversight and surveillance activities to ensure compliance with contractually mandated safety requirements.

The OASO NES Team performs day-to-day oversight and periodic surveillances of the AL Nuclear Explosive Weapons Surety Program activities in accordance with ALSD 452.1B.

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Another significant mechanism for day-to-day oversight of Pantex Plant operations is the OASO Facility Representative (FR) program. All Pantex nuclear facilities are provided with dedicated FR coverage. FRs monitor the status, including deficiencies and potential areas of concern, of their assigned facilities. In addition to daily observations, FRs perform scheduled surveillances of each of the sections of [DOE O 5480.19](#), *Conduct of Operations requirements for DOE Facilities*, in accordance with the frequencies specified in [AAO 511.1.4](#), *Facility Representative Activity Plan*. The Duty Officer coordinates a daily conference call with the FRs, ADs and other OASO personnel, and provides operational information based on a review of the Pantex Operations Center log, the facility status board, and potentially reportable events. The conference call also serves as a mechanism for participants to raise potential issues or concerns. In addition to coordinating with OASO functional area SMEs, the FRs have primary responsibility for the implementation of [DOE O 232.1A](#), *Occurrence Reporting and Processing of Operations Information*, and [DOE O 5480.19](#), *Conduct of Operation Requirements for DOE Facilities*.

Procedures have been developed to assist OASO personnel with the implementation of requirements and regulations at the Pantex Plant. Procedures assigning responsibilities and defining required actions have been developed for each significant OASO functional responsibility. [AAO 104.1.1](#), *Procedure Development, Control, and Issuance*, defines the OASO procedure system. The following table illustrates the relationship between selected OASO procedures/processes and ISM core functions.

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4.3.1 Stop Work Authority

All personnel at the Pantex Plant have authority to stop work when conditions exist that pose an imminent threat to health, safety, or the environment; or could adversely affect the safe operation of, or cause damage to a facility or operation. [AAO 101.1.1](#), *Stop Work Authority*, defines the authority of OASO personnel to stop work at the Pantex Plant.

5.0 Feedback and Improvement

5.1 Collect Feedback Information

The multiplicity of safety programs functioning at OASO and the Pantex Plant, including OASO oversight, self-assessment programs, independent oversight programs, environmental management system reviews, lessons learned programs, the Occurrence Reporting and Processing System (ORPS), the Computerized Accident/Incident Reporting System (CAIRS), and [AAO 109.1.1](#), Trending & Analysis Program (Procedure is being evaluated for the need to retain and/or update), afford numerous opportunities to evaluate organizational performance and identify areas in need of improvement. The results of these assessment mechanisms are compiled in the annual [Performance Assessment Matrix](#) (PAM).

The PAM process, which is a joint AL and OASO initiative for identifying strengths and vulnerabilities within the Pantex Integrated Safety Management System, provides a means for systematically reviewing, evaluating, and documenting Pantex organizational and ES&H functional area effectiveness. A Functional Area Performance Sheet, compiling the available information from NNSA oversight activities, is developed for each functional area. The Performance Sheets include the results of day-to-day oversight activities, OASO Subject Matter Expert and Facility Representative reviews and observations, AL assessments, and external assessments. OASO Senior Management reviews the input to the PAM and the risk ranking assigned to each functional area to determine the necessity for and level of external support needed. The information in the PAM is also used to select the organizational and ES&H functional areas requiring “for cause” assessments. When needed, the OASO Director requests assistance from AL ES&H or other external support staff when conducting “for cause” reviews.

The OASO Field Activity Database (FADB) is an important element of the OASO feedback and improvement process. The FADB was developed to serve as a tool to formally track, trend, and monitor the status of Pantex programs, concerns, and issues. The FADB is available to all OASO personnel. In addition to data entry, the FADB provides a “view only” function to facilitate reviews, searches, and tracking activities. Surveillance data is generated through field activities such as walk downs. The FADB is

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also used for documenting closed findings developed in external assessments and tracking issues or concerns.

Quality Assurance Surveys are also a link in the feedback loop. Corrective actions are tracked through completion and issues are trended to evaluate for isolated weaknesses or programmatic concerns.

The OASO NES Team is also a link in the feedback loop. The OASO NES Team participates in Operational Safety Reviews (OSRs) to observe actual nuclear explosive operations that had been previously approved. OSRs provide feedback to line management that operations continue to meet the nuclear explosive safety standards or identify recommendations that should be corrected.

5.1.1 Lessons Learned

Valuable Lessons Learned can be derived from any of the sources previously discussed. The OASO Lessons Learned Coordinator, in addition to providing oversight of the M&O contractor's Lessons Learned program, is responsible for ensuring that relevant Lessons Learned are promulgated to OASO employees and support contractors. A variety of mechanisms are used. These mechanisms include All Hands Meetings, informal hazard training/briefings provided by Subject Matter Experts, EH notices, system-wide E-mail messages and required reading.

5.1.2 Employee Concerns Program

The OASO Employee Concerns Program (OASO ECP), [AAO 111.1.0](#), encourages direct interaction between Pantex employees (OASO, contractor, and subcontractor) and management to resolve concerns regarding the environment, safety, health, security, waste and abuse of property, operations, and differences of opinion. When this is not successful or possible, the OASO ECP provides a mechanism whereby employees can express concerns without fear of retribution or reprisal. The program establishes an OASO point of contact, the Employee Concerns Program Manager, tasked with providing prompt evaluation and resolution of reported concerns. The OASO ECP compliments the existing framework of directives and regulations addressing employee concerns and does not preclude an employee from pursuing a concern through other established mechanisms, including the AL ECP.

5.2 Identify Improvement Opportunities

It is the policy of OASO to identify, assign for action, and track to closure all significant issues related to the Pantex Plant. Issues can be identified by an external organization, by the OASO as part of normal oversight activities or by OASO management in response to an identified weakness or need for improvement. The OASO Director considers that individual Associate Directors or Contracting Officer Representatives should be

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responsible for addressing issues in their area of responsibility and that a separate Issues Management Board is not necessary. Instead, the weekly OASO Senior Management meeting was restructured to facilitate issue resolution by providing a forum for each Senior Manager to share current issues and any cross-cutting needs. Also, an Optix action tracking system was implemented to track both internal (OASO response required) and external actions (e.g., BWXT action). The Optix system also enhances records management because the system retains electronic copies of correspondence associated with actions that are readily retrievable. Hence, tasking for Contractor actions is accomplished by OASO Contracting Officer or Contracting Officer Representative correspondence that is archived and tracked through Optix. Finally, OASO uses the Corrective Action Tracking System (CATs) for higher level issues in a manner consistent with the rest of the DOE complex (e.g., OA findings, Accident Investigation Justifications of Need).

5.2.1 Trending and Analysis

The purpose of the trending and analysis function is to provide management with meaningful information on the state of ES&H at the Pantex Plant. Trending and analysis is performed on specific operational data and established performance indicators. The objective is to provide information that is predictive in nature, rather than lagging, so that management action can be taken before incidents occur or adverse trends develop. Formalized local guidance is provided in [AAO 109.1.1](#), *OASO Trending and Analysis of Pantex Operations Using Performance Indicators* (Procedure is being evaluated for the need to retain and/or update). An example of trending and analysis of the M&O contractor's ES&H performance is the annual PAM.

5.2.2 OASO Assessment Program

An essential element of feedback and improvement is the OASO Assessment Program, [AAO 110.2.1](#), *AAO Assessment Program* (Procedure is being evaluated for the need to retain and/or update). The OASO Assessment Program provides for "For Cause" assessments, effectiveness reviews, or formal validations of: the contractor's corrective actions, accidents and incidents, and performance problems. The determination of the need for an assessment is made by Senior Management and is based on input from Subject Matter Experts, performance trends developed from surveillance data, performance indicators, routine Cost Plus Award Fee (CPAF) meetings or external assessments and/or evaluations. Performance objectives and criteria are developed by the assessment team leader and approved by the responsible AD. Performance measures used in assessments are based on mandated requirements or standards and consider the result of previous assessments, the PAM Report, occurrence reports, and noncompliance reports. An assessment report is developed by the assessment team leader and submitted to the responsible AD for approval. The assessment report, including a request for the development of any necessary corrective actions, is then provided to the M&O contractor. Figure 3 is a depiction of the OASO assessment activities.

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Formally scheduled independent oversight assessments required by DOE Orders and Directives are normally conducted by AL or HQ and are not included in the OASO program.

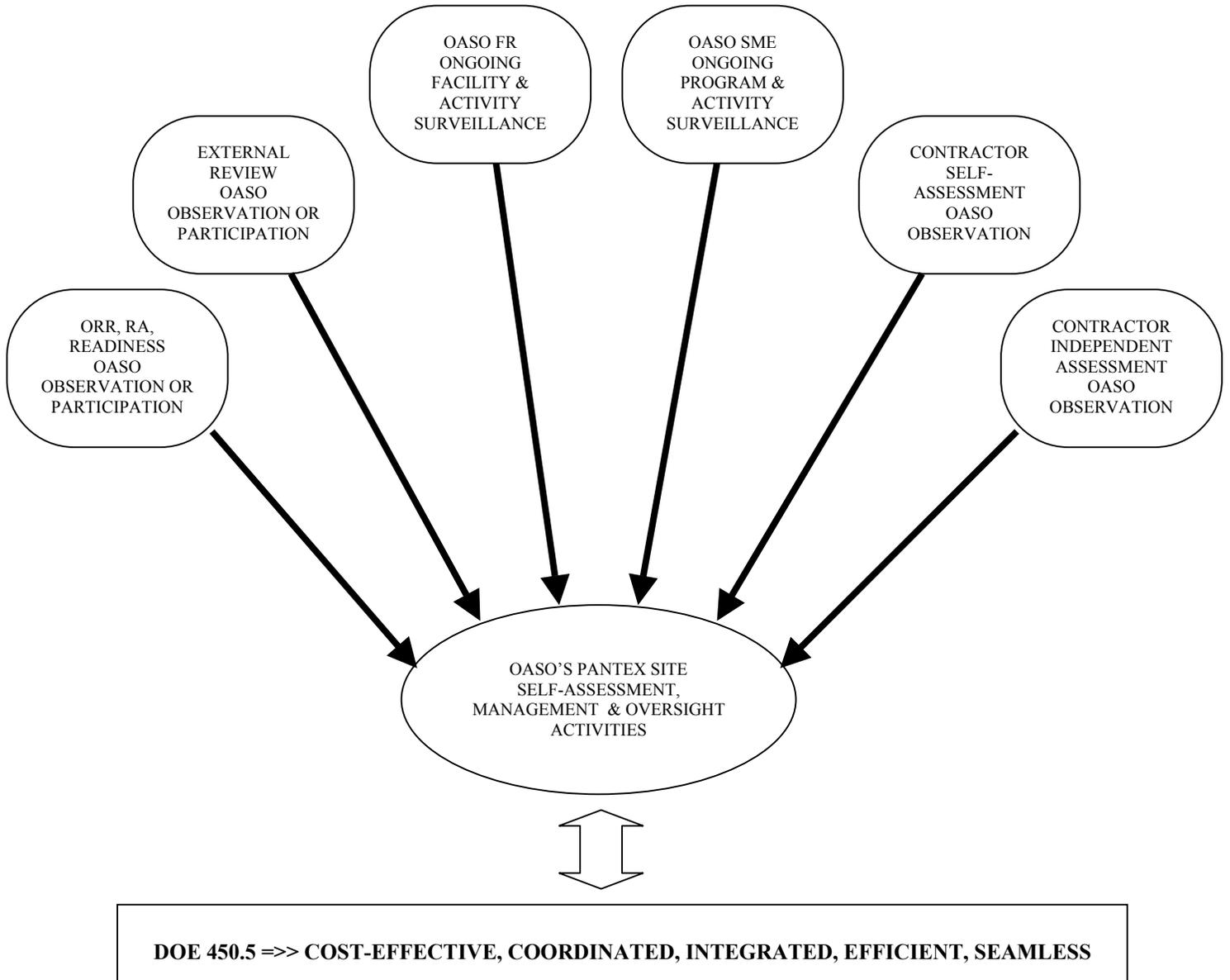


Figure 3. OASO Systems approach to Pantex Oversight

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5.2.3 Performance Measurement

5.2.3.1 Contractor Performance Measurement

M&O contractor performance is measured throughout the fiscal year performance period through the various monitoring and reporting measures described in [AAO 110.2.1](#), *OASO Assessment Program* (Procedure is being evaluated for the need to retain and/or update), and [AAO 109.1.1](#) *OASO Trending and Analysis of Pantex Operations Information using Performance Indicators* (Procedure is being evaluated for the need to retain and/or update), respectively. This information, combined with routine surveillances, observations, and monthly CPAF meetings, is used to formulate decisions regarding contractor performance. OASO measures the results of contractor performance using the Performance Evaluation Plan (PEP). OASO provides a formal mid-year briefing on the contractor's performance and an end-of-year report called the Performance Evaluation Report (PER). The PER formally documents the contractor's performance against PEP expectations and WAD deliverables. This includes performance against ES&H indicators, milestones, and deliverables.

5.2.3.2 Occupational Safety & Health Performance

The OASO implements an integrated oversight program that objectively assesses the M&O contractor's Safety and Health performance. OASO's Safety and Health oversight program, [AAO 510.6.0](#), *Oversight of the Contractor's Safety & Health Programs*, includes the Industrial Safety, Industrial Hygiene, Occupational Medicine, Fire Protection, and Radiation Safety functional areas. The OASO Safety & Health Staff conducts document reviews, surveillances, workplace walkthroughs, and unannounced compliance inspections of facilities and operations, including construction, to ensure compliance with required safety standards. Compliance inspections are performed on a priority basis, taking into account the relative risk of the operation; the number of employees affected, and types of safety, health, or radiation protection concerns involved. Other activities, such as Accident Investigations, "for cause" Evaluations, Performance Based Incentives, SAFE Database Assessments, Worker Safety Incentive Assessment, Job Safety and Health Analysis, Confined Space Program Surveys and many other evaluations are also performed. The AL Environment, Safety and Health Division provide technical support as necessary for compliance inspections and surveillances. Findings and violations are followed up with subsequent inspections to ensure that appropriate corrective actions are taken.

5.2.3.3 Federal Employee Performance Measurement

In June 2002, NNSA began converting some of its technical positions from the existing General Schedule (GS) to the Excepted Service (ES), partially in an effort to better recruit and retain "high demand technical field" personnel. Because of Congressional dictates, those positions were only afforded to a limited (approx. 300 FTEs NNSA-wide)

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number of OASO employees. As such, the OASO employee’s performance is measured and rewarded through the use of two performance systems: a) The AL 360-degree performance evaluation process for GS employees; and b) The NNSA ES pay scale for EN and EJ positions.

For GS employees, performance standards are issued to each employee at the beginning of a rating cycle. The supervisor and a team selected by the employee, with supervisor approval, evaluate the employee. This approach allows the employee to receive feedback on his or her performance from a number of “customers.” Customers can include counterparts within the OASO, AL, other DOE and NNSA organizations and contractors. The measurement process is also accompanied by periodic performance discussions with the employee’s supervisor.

The NNSA ES performance management process has three principle phases: performance planning, mid-year review and performance evaluations. For ES employees, performance standards are issued to each employee at the beginning of a rating cycle. The first line supervisor (Rating Official) evaluates the performance of the employee and assigns proposed ratings, final summary rating, proposed Performance Bonus amounts, and develops Exceptional Contributor Recognition nominations and subsequently briefs the employee on the final results. The evaluation process typically includes feedback from persons the employee worked with during the rating period. These items are then provided to the second line supervisor (Reviewing Official) who submits the final packages to the Pay Pool manager. The measurement process is also accompanied by periodic performance discussions with the employee’s supervisor.

5.2.4 OASO Self Assessment

A goal of the OASO is to establish a culture of continuous improvement. A self-assessment program, which identifies areas in need of improvement, is an essential element of the continuous improvement process. The OASO Self-Assessment Program, [AAO 114.1.0, OASO Self-Assessment Program](#), provides for an ongoing management self-assessment of the OASO’s organizational and individual performance against applicable DOE Orders, standards, and requirements. The OASO self-assessment program is integral part of line management’s ongoing process for identifying and correcting weaknesses and promoting best practices. [AAO 114.1.0, OASO Self-Assessment Program](#), defines the ISM Feedback and Improvement core function as it applies to OASO managers and personnel responsible for General Management, Nuclear Engineering and Environmental Management, Operations, Business Management and Security.

OASO self-assessments are normally conducted such that each Associate Director completes at least one self-assessment per year. In order to effectively allocate resources and minimize redundancy, priority is given to those areas/activities with the highest relative risk. The risk evaluation process is consists of assigning weighting factors to six

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process elements. These elements are: 1) functional area effectiveness (based on the Performance Assessment Matrix); 2) whether or not the area has been the focus of recent external inspections; 3) findings from major external inspections involving an OASO performance deficiency; 4) relative importance to ES&H; 5) external requirements for an annual OASO assessment; and 6) the Associate Director’s risk value, which is based on factors such as changes within the OASO organization and changes to OASO drivers. Attachment 2 of OASO [114.1.0](#), *OASO Self-Assessment Program*, is the worksheet used for documenting these determinations. Figure 4 is a graphical depiction of the OASO risk ranking process.

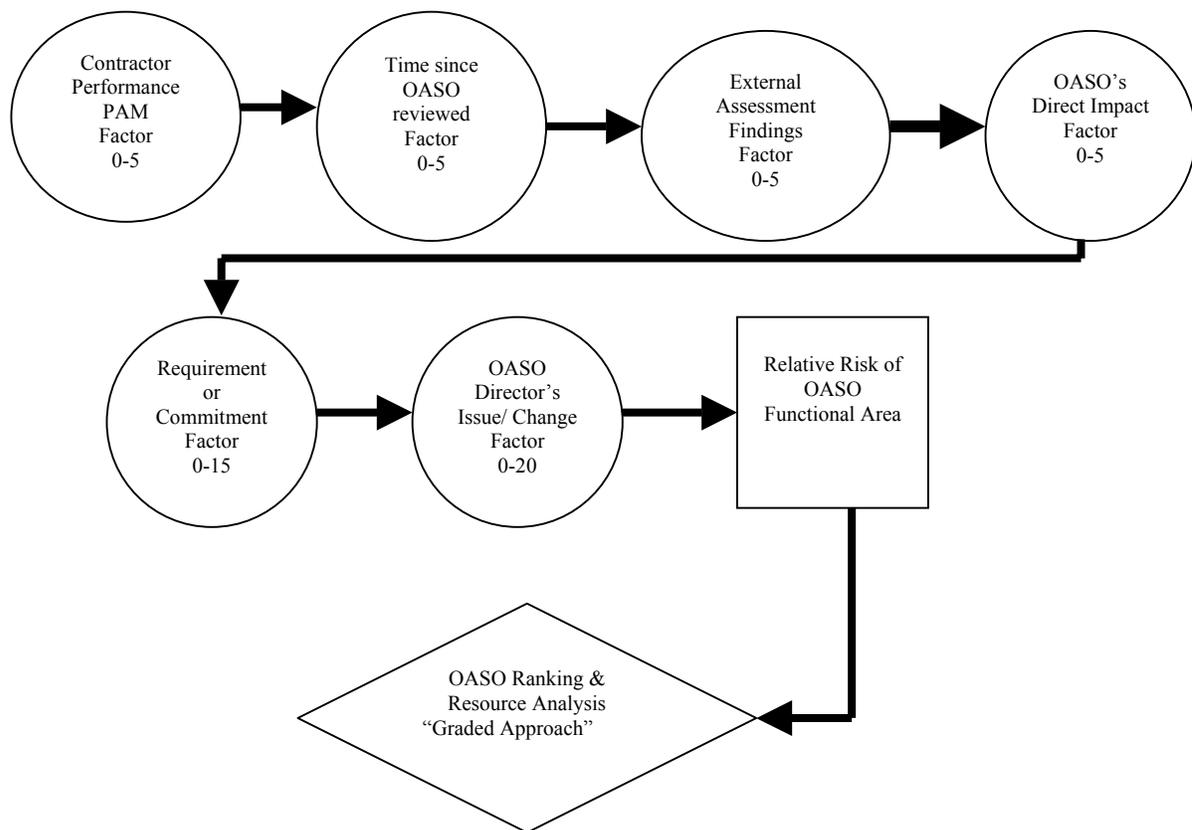


Figure 4 OASO’s Self-Assessment Target Development

5.2.5 Enforcement of Standards

DOE has established a mechanism to judiciously take action against DOE contractors for unsafe actions or conditions that violate nuclear safety requirements for protecting workers and the public. It provides positive incentives for contractors to strive for an enhanced nuclear safety culture through attention to compliance with standards and requirements, self-identification of problems, reporting potential noncompliances to DOE, and initiating timely and effective corrective actions. Price-Anderson

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Amendments Act (PAAA) enforcement is part of DOE's overall Safety Management Program, which focuses on line management responsibility for safety, comprehensive requirements, competence commensurate with responsibilities, independent oversight and enforcement.

OASO uses PAAA enforcement in accordance with the requirements of 10 CFR 820, *Procedural Rules for DOE Nuclear Activities*, and the *Operational Procedures for Enforcement*, promulgated by the DOE-HQ Office of Enforcement and Investigation (EH-10). OASO has assigned duties associated with the enforcement of the PAAA to the OASO PAAA Coordinator. PAAA Coordinator duties/responsibilities are documented in a draft office procedure.

5.3 Contractor Feedback

Cost Plus Award Fee (CPAF) is the primary tool for driving improvement in contractor performance. The totality of performance information derived from oversight activities serves as the primary source of feedback used to affect continuous improvement through the CPAF process. The PEP constitutes the criteria and procedures that are utilized in evaluating contractor performance and determining the amount of award fee earned by the contractor. Evaluation of performance against the PEP is the key method used by the OASO to emphasize priorities, focus on operations and safety, and drive improvement. Financial incentives, either in the form of PBIs tied to specific levels of improvement in targeted areas or Award Fee for performance against the broad functional performance objectives defined in the PEP, serve to motivate improvements in contractor operations.

All OASO SMEs evaluate contractor performance in their assigned functional areas and provide input to the CPAF rating process. OASO senior management briefs the contractor on performance against the PEP on a periodic basis to ensure that performance expectations and ratings are mutually understood. The ability to develop PBIs and Award Fee objectives in response to contractor performance provides DOE with the flexibility necessary to ensure the continued improvement in the overall level of contractor performance.

The contractor's overall annual performance is documented in the Performance Evaluation Report (PER), which is developed by OASO personnel. A sanitized, draft PER is shared with the contractor for factual accuracy review. The OASO Director or his designee briefs the PER to AL's Performance Assessment Council and the Fee Determining Official. The PER serves as another key feedback and improvement mechanism to drive the ISM process.

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5.4 Improvement

5.4.1 Corrective Actions

For issues requiring corrective action by OASO, either internally identified through the self-assessment program or developed from an external source, corrective action plans are developed. The responsible Associate Director will develop a comprehensive corrective action plan to address the issue and prevent recurrence. The corrective action plan identifies measures to correct each deficiency; identifies root causes of significant deficiencies; and determines the existence of, and necessary corrective actions for, similar deficiencies. In addition, for each specific corrective action, the corrective action plan assigns a responsible individual; a start date; a completion date; identifies process that will be used for tracking progress; and provides for independent verification of closure.

The Development & Production Manual establishes several processes for addressing problems associated with nuclear explosive operations. Chapter 2.1, *Use of a Product That Does Not Meet Specifications*, defines the processes use to authorize the use of a weapon product that departs from specifications. Chapter 6.2, *Examination and Repair of Weapon Assemblies at Pantex*, defines the responsibilities for returning a defective weapon from the Department of Defense to Pantex. Chapter 11.7, *Nuclear Explosive Change Control Process*, defines the processes used for evaluating all proposed changes to nuclear explosive operating procedures, tooling, equipment, and facility interfaces. The TriLab Project Office, in addition to serving as the Point of Contact for the National Laboratories at Pantex, supports these processes by providing reviews of new nuclear explosive operating procedures, Design Agency signature authority for nuclear explosive procedure changes and real-time technical assessments of weapon problems at Pantex.

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6.0 REFERENCES

- a. [AAO 101.1.0](#), *Operations Quality Assurance Program*
- b. [AAO 101.1.1](#), *Stop Work Authority*
- c. [AAO 101.2.0](#), *National Environmental Policy Act (NEPA) Compliance Management*
- d. *[AAO 102.1.0](#), *Qualification and Training Program*
- e. [AAO 103.1.0](#), *Pantex Integrated safety Management System Description, Standards/Requirements Identification Documents, and Directives Management Program*
- f. [AAO 103.2.0](#), *Authorization Agreements*
- g. *[AAO 103.4.0](#), *AAO Functions, Responsibilities and Authorities Manual (FRAM)*
- h. [AAO 104.1.1](#), *Procedure Development, Control and Issuance*
- i. [AAO 104.2.0](#), *Records and Information Management System*
- j. **[AAO 104.5.1](#), *AAO Classification Program*
- k. *[AAO 105.2.0](#), *Nuclear Explosive Safety*
- l. [AAO 105.2.1](#), *AAO Personnel Assurance Program*
- m. [OASO 106.1.0](#), *Safety Basis Documentation Program*
- n. [AAO 106.5.0](#), *AAO Project Management System*
- o. *[AAO 106.6.0](#), *Application of General Design Criteria*
- p. *[AAO 109.1.1](#), *AAO Trending and Analysis of Pantex Operations Information Using Performance Indicators*
- q. *[AAO 110.1.1](#), *Construction Project Safety and Health Oversight*
- r. *[AAO 110.1.4](#), *Oversight of Contractor Training Program*
- s. [AAO 110.1.6](#), *Oversight of Pantex Plant Contractor's Packaging, Container, and Transportation Program*
- t. *[AAO 110.2.1](#), *AAO Assessment Program*
- u. [AAO 111.1.0](#), *Employee Concerns Program*
- v. **[AAO 112.1.0](#), *Emergency Management Oversight Program*
- w. **[AAO 112.1.1](#), *Emergency Response Organization Selection and Training*
- x. **[AAO 112.1.3](#), *Offsite Emergency Response Interface Program*
- y. [AAO 114.1.0](#), *AAO Self Assessment Program*
- z. *[AAO 114.5.0](#), *Review of Contractor Radiation Protection Plans*
- aa. [AAO 115.1.0](#), *Startup and Restart of Pantex Plant Activities*
- bb. **[AAO 119.1.0](#), *AAO Unclassified Computer Security Program*
- cc. [AAO 123.1.0](#), *Duty Officer*
- dd. *[AAO 210.1.0](#), *Waste Management Oversight*
- ee. *[AAO 402.1.1](#), *AAO New Employee Orientation Program*
- ff. *[AAO 407.1.1](#), *Work Authorization Directives' (WADs) Change Control Procedure, Prime Contract No. DE-AC011-91AL65030*
- gg. *[AAO 407.2.1](#), *Workload Planning and Budget Formulation Procedure, Prime Contract No. DE-AC011-91AL65030*
- hh. [AAO 410.1.1](#), *Cost Reduction Incentive Program (CRIP)*
- ii. [AAO 506.1.0](#), *Nuclear Criticality Safety*

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- jj. *[AAO 510.3.0](#), *Maintenance Program Management*
- kk. [AAO 510.6.0](#), *Oversight of the Contractor's Occupational Safety & Health Program*
- ll. [AAO 511.1.0](#), *Facility Representative Program Manual*
- mm. [AAO 511.1.1](#), *Facility Representative Routine*
- nn. [AAO 511.1.3](#), *Facility Representative Continuing Training*
- oo. [AAO 511.1.4](#), *Facility Representative Activity Plan*
- pp. [DOE O 232.1A](#), *Occurrence Reporting and Processing of Operations Information*
- qq. [DOE M 360.1-1B](#), *Federal Employee Training Manual*
- rr. [DOE O 425.1B](#), *Startup and Restart of Nuclear Facilities*
- ss. [DOE Order 430.1A](#), *Life Cycle Asset Management*
- tt. [DOE P 450.4](#), *DOE Safety Management System Policy*
- uu. [DOE O 440.1A](#), *Worker Protection Management for DOE Federal and Contractor Employees*
- vv. [DOE M 440.1-1](#), *DOE Explosives Safety Manual*
- ww. [DOE O 451.1B](#), *NEPA Compliance Program*
- xx. [DOE O 452.1B](#), *Nuclear Explosive and Weapon Surety Program*
- yy. [AL SD 452.1B](#), *Nuclear Explosive and Weapon Surety Program*
- zz. [DOE O 452.2B](#), *Safety of Nuclear Explosive Operations*
- aaa. [AL SD 452.2B](#), *Safety of Nuclear Explosive Operations*
- bbb. [DOE-STD-3009-94](#), *Preparation Guide for U. S. Department of Energy Nonreactor Nuclear Facility Safety Analysis Reports*
- ccc. [DOE-DP-STD-3016-99](#), *Hazard Analysis Reports for Nuclear Explosives Operations*
- ddd. [DOE O 3790.1B](#), *Federal Employee Occupational Safety and Health Program*
- eee. [DOE O 5400.1](#), *General Environmental Protection Program*
- fff. [DOE O 5400.5](#), *Radiation Protection of the Public and the Environment*
- ggg. [DOE O 5480.19](#), *Conduct of Operations requirements for DOE Facilities*
- hhh. [QC-1](#), *QUALITY CRITERIA*
- iii. [10 CFR 830.203](#), *USQ Process*
- jjj. [10 CFR 830](#), *Nuclear Safety Management*
- kkk. [29 CFR 1910.119](#), *Process Safety Management of Highly Hazardous Chemicals*
- lll. [29 CFR 1960](#), *Basic program elements for Federal employee occupational safety and health programs and related matters*
- mmm. [AL56XB](#), *Development and Production Manual*
- nnn. [Technical Business Practices \(TBP\) 901](#), *Integrated Safety Process for Nuclear Weapon Operations and Facilities*

* Procedure is being evaluated for the need to retain and/or update

** Procedure is being reviewed and will be incorporated into the OASO Safeguards and Security Plan

Attachment 1

U. S. Department of Energy
Albuquerque Operations Office
Amarillo Area Office

AMARILLO AREA OFFICE
POLICY

AAO-00-1

SUBJECT: Protection of Plant Employees, the Public, and the Environment

Policy Statement: The Office of Amarillo Site Operations is committed to ensuring that all work at the Pantex Plant is performed in a manner that ensures the protection of employees, the public, and the environment. In order to achieve this objective, I expect:

- Zero tolerance of ES&H violations. None of the Pantex Plant production goals is so important that established environment, safety, or health standard should ever be compromised.
- Line management emphasis on the implementation of the Voluntary Protection Program tenets of management leadership, employee involvement, worksite analysis, hazard prevention and control, and ES&H training.
- The development of specific ES&H objectives to implement this policy.
- Employee participation in all aspects of work planning, performance, and feedback.
- Clear contract accountability and performance objectives for ES&H compliance.
- Continuous improvement in all phases of ES&H performance.

 3/20/00

Daniel E. Glenn
OASO Director