



## **Y-12 Site Office**

# **Management System Description**

**August 2002**

**Original Signed By**  
**William J. Brumley**

---



<b>Revision 0</b>	<b>March 2001</b>	<b>Original Issue</b>
Revision 1	November 2001	Added Safeguards and Security Division; Added Direct Reports; general editing
Revision 2	February 2002	General Update – expanded Direct Reports; replaced Attachments with electronic links; general editing
Revision 3	May 2002	Added Diversity Manager, Additional info on Safeguards And Security and Firearms Safety; general editing
Revision 4	August 2002	General Update – Reflect new organizational titles; added Revision log; update procedures; etc

## 1.0 Purpose

This document serves as a communication tool (internal and external) by providing a comprehensive high-level system description of processes and responsibilities of the Y-12 Site Office (YSO) and the current conditions and actions planned or in progress as part of YSO's continuous improvement process. Specific actions are identified in the System Description Commitments Report (MANAGEMENT SYSTEM DESCRIPTION COMMITMENTS.MDB). This description is intended to be a living document that is updated frequently to capture the current status and progress toward maintaining and improving integrated safety management (ISM) implementation. Restructuring, staffing of key managers, clarification and identification of roles and responsibilities, accountability, revision of procedures, and the feedback and improvement process are addressed throughout this document. The following summary level descriptions are supplemented by references to YSO procedures and other command media that define activities in greater detail.

## 2.0 Office Management

### 2.1 Organization

#### 2.1.1 Roles and Responsibilities

The YSO organization is depicted at <http://www-internal.y12.doe.gov/nadp/yao-org-chart.doc>. The organization has responsibility for administration of the contract and adequate oversight of contractor activities to verify compliance with the contract at the Y-12 National Security Complex. Responsibilities are primarily divided among five divisions (i.e., Programs, Operations Management, Technical, Safeguards and Security, and Business Management) and six senior direct reports. A summary of responsibilities is provided below. Reference 6.1 captures YSO safety management functions, responsibilities, and authorities (FRAM) contained in DOE Orders and Directives.

##### **Site Office Manager (SOM)**

The SOM directs and manages a staff of senior management personnel comprised of the Direct Reports, Director for Programs Division, Director for Operations Management Division, Director for Technical Division, Director for Safeguards and Security Division, and Director for Business Management Division. The Direct Reports include Deputy Manager, Senior Projects Manager, Senior Nuclear Engineer, Senior Authorization Basis Manager, Performance Assurance Office Manager, and Office Manager. Each Division Director and Direct Report directs and manages functional areas as assigned by the SOM to execute work at Y-12. The Division Directors direct and manage scientists, engineers, or administrative personnel who may be organized into staffs, teams, or individuals to provide oversight of functional areas as assigned.

##### **Deputy Manager (DM)**

The DM is responsible for integration of operational, programs, and technical activities and provides support to the SOM on all matters related to YSO activities. Specific areas of emphasis will be safety of nuclear facilities and nuclear material operations, implementation of YSO's Management system description, YSO procedures and policies, security, ISM, startup/restart, lessons learned, staffing, training, and authorization basis programs.

### **Senior Projects Manager (SPM)**

The SPM is responsible for capital line item, general plant, and expense projects. The SPM has responsibility for oversight of the contractor's implementation and execution of all facility and infrastructure projects. The Programs Division Director provides project engineer(s) matrix support to the SPM in order to accomplish tracking project scope, cost, and schedule, and performance evaluation.

### **Senior Authorization Basis Manager (SABM)**

The SABM is responsible for risk management activities for nuclear and non-nuclear facilities. The SABM reviews safety basis documentation, evaluates technical and operational safety requirements, and develops safety evaluation reports for existing facility and operations, and new facilities and mission(s). The Technical Division provides matrix support to the SABM in order to accomplish Y-12 safety analysis activities.

### **Senior Nuclear Engineer (SNE)**

The SNE provides technical advice to senior managers and staff within YSO. The SNE is responsible for direction and coordination of all nuclear nonproliferation (NN) initiatives that provide support to NNSA's NN programs. Among these initiatives are the HEU purchase agreement and transparency activities, Russian Material Protection Control and Accounting (MPC&A), nuclear cities initiative, fissile materials disposition programs, coordination of IAEA activities at Y-12, and compliance with nuclear nonproliferation treaties. The SNE is responsible for the development and execution of Work Authorization Directives (WADs) for the Oak Ridge Center for International Threat Reduction and other advanced technology activities related to nuclear nonproliferation. The SNE is the technical lead for activities associated with the DOE Office of Intelligence.

### **Performance Assurance Office Manager (PAOM)**

The PAOM is responsible for overseeing the YSO continuous improvement process. These responsibilities include: (a) analyze, evaluate and draw conclusions about the efficiency and effectiveness of programs, business and management information systems used at YSO, (b) recommend changes to existing systems or establish new ones, (c) serve as a focal point for the resolution of cross-cutting programmatic issues within the YSO, (d) provides oversight and guidance to the M&O contractor regarding performance assurance activities, (e) serves as POC for public affairs activities with ORO/HQ and Contractor, (f) leads and coordinates Directives management activities, and (g) leads and coordinates the YSO self-assessment process.

### **Office Manager (OM)**

The OM is responsible for overall administration and office management. This includes special projects (e.g., coordination of office floor plan) as directed by the SOM.

### **Diversity Manager**

The YSO Diversity Manager is responsible for developing and implementing the YSO Diversity Plan. Duties include serving as a focal point for diversity and EEO activities at YSO, issuing reports on the YSO Diversity Program, including employment statistics, providing employment

statistics to NNSA selecting officials, and providing recommendations to YSO management on diversity and EEO issues.

### **Programs Division**

The Programs Division provides day-to-day oversight of on going programmatic and project planning activities. Programmatic activities include Directed Stockpile Work and Campaigns (ADAPT, Secondary Readiness, and RTBF). They ensure that contract programmatic performance meets technical, budget, and schedule requirements and constraints. Mission requirements include, but are not limited to, stockpile evaluation and maintenance, nuclear materials management and storage, weapons dismantlement, advanced design and production technology (ADAPT), manufacturing processes, modernization, nuclear packaging, facilities management including infrastructure reduction and disposal of excess facilities, material recycle and recovery, and advanced technology. The Programs Division has significant involvement in the development, prioritization, and execution of the annual field budget, the Work Authorization Directives, and performs the line management function for startup and restart of facilities and equipment. The Division leads development of the YSO Strategic Plan (SP) and oversight of the contractor SP. The Division also leads, coordinates, and provides contractor oversight of the Ten Year Comprehensive Site Plan. The Programs Division provides engineer(s) matrix support to the Senior Projects Manager for the execution of Capital Projects, General Plant Projects, and Expense Projects in support of the mission and infrastructure.

### **Operations Management Division**

The Operations Management Division provides day-to-day oversight of all Y-12 operations including start-up and restart activities, site occurrences, conduct of operations program, maintenance and utilities, training, and quality assurance. Operational oversight is primarily performed by Facility Representatives that are assigned to major production facilities. The Operations Management Division manages the YSO technical qualification program, including the Federal Technical Capability Program, performs the DOE Weapons Quality Assurance Agency function in accordance with QC-1 (DOE/AL, Quality Criteria), and has oversight responsibility for the BWXT Y-12, L.L.C. (BWXT Y-12) Price Anderson Amendment Act (PAAA) Program. The Operations Management Division is also responsible for maintaining the YSO QA Program.

### **Technical Division**

The Technical Division provides day-to-day oversight of criticality safety, health physics, radiological protection, industrial hygiene and occupational medicine, industrial safety, transportation safety, firearm safety, emergency preparedness, chemical safety, configuration management, fire protection, NEPA, and environmental programs. The Technical Division provides matrix support to the Senior Authorization Basis Manager for nuclear facility safety and authorization agreements. The Technical Division provides a core team of process/system engineers with expertise in configuration management, nuclear engineering, heating, ventilation, air-conditioning, metal production, and other key areas as the need is identified. The Technical Division also has responsibility for DNFSB liaison coordination and implementation of the Integrated Safety Management System (ISMS) process.

### **Business Management Division**

The Business Management Division (BMD) is responsible for contractor oversight and YSO business management function. The BMD is the primary interface with ORO regarding YSO

federal support from ORO. The division is responsible for procurement and contracts, financial and accounting systems, budget formulation, external auditing, administrative functions, YSO/ORO Service Arrangement, administration and development of the Performance Evaluation Plan (PEP), Fee Process, and Work for Others. The Business Management Division facilitates and coordinates the planning, scheduling, and budgeting of Y-12 Site Office (YSO) programs. The BMD is responsible for monthly tracking of contractor performance assessment reporting, federal staffing and budgeting, and administration of technology programs.

### **Safeguards and Security Division**

The Safeguards and Security Division (SSD) provides day-to-day oversight of the safeguards and security program for BWXT Y-12, L.L.C. (BWXT Y-12) and performs COR responsibilities for Wackenhut Services, Incorporated-Oak Ridge (WSI-OR protective forces contractor). This oversight is designed to ensure contract performance in the area of program management for nuclear and non-nuclear security and safeguards requirements, all aspects of physical security, protective force operations, information security, personnel security, classification, security planning, cyber security, material control and accountability, and technical surveillance countermeasures. Surveillance and assessments of Y-12 security and safeguards are primarily performed by Security Subject Matter Experts that are assigned specific topical and sub-topical areas to review and assess. The SSD also inputs to the DOE SSIMS any security and safeguards findings with follow-up actions of corrective action plans in accordance with DOE Order 470.1 and DOE Guide 470.1-2; has oversight and inquiry responsibility for the Security Incidents Program in accordance with DOE Notice 471.3; and has oversight and direct responsibility for PSAP and clearance activities conducted at Y-12 and in support of YSO personnel. Additionally, SSD implements and has oversight of the Security Awareness Training Program in accordance with DOE Order 470.1, Chapter IV.

#### **2.1.2 YSO/ORO Service Arrangement**

The YSO/ORO Service arrangement (Reference 6.2) documents the arrangement by which ORO and YSO shall provide services to one another. This arrangement reflects the mutual dependencies that currently exist between YSO and ORO organizations and it leverages the skills of the personnel resources to the best advantage of both organizations. The service agreement addresses: Financial Management, Administrative Services, Human Resources, Procurement and Contracts, Legal Services, Public Affairs, Partnerships and Programs, Safeguards and Security; Environment, Safety, Health, Quality, and Emergency Management; Environmental Management, Laboratory Management, Assets Utilization, Diversity Programs and Employee Concerns, and Office of Nuclear Fuel Security and Uranium Technology. The service arrangement is subject to an annual review and updated as needed. (<http://www.oro.doe.gov/finaloroyao.pdf>).

#### **2.1.3 Technical Qualification**

YSO technical personnel who provide management direction or oversight that impacts the safe operation of Y-12 Plant facilities are included in the Technical Qualification Program (See Reference 6.3). Personnel designated to be included in the program are required to satisfy competency requirements contained in the DOE General Technical Base Standard, the applicable Primary Functional Area Qualification Standard, and the YSO Qualification Standard (Reference 6.4). Competency requirements are documented in position standards while required training activities are documented on qualification cards or in employee individual development plans (IDPs). The satisfactory and documented completion of the competency requirements contained

in these standards ensures that technical employees possess the minimum requisite competence to fulfill their safety oversight duties and responsibilities. Satisfactory completion of the required competencies is verified by subject matter experts and qualifying officials. Once employees have satisfied the initial competency requirements, proficiency will be maintained and enhanced through recurrent training. Technical competency/qualification will be assessed every three years through a tailored re-qualification program in accordance with Reference 6.3. YSO personnel in the TQP at inception, completed initial qualification by May 1999. As new technical personnel are added to the YSO, initial qualification must be completed within 18 months.

Personnel that are assigned to the Facility Representative Program (Reference 6.5) will likewise be required to satisfy competency requirements documented in the YSO Facility Representative Qualification Program (Reference 6.6). This program requires initial qualification within 18 months and includes the satisfactory completion of a comprehensive written exam, facility walk down, oral examination, and management interview. Re-qualification is required every three years. The YSO Facility Representative Interim Qualification Program (Reference 6.33) defines a process to provide qualified FR oversight while the FR is working toward full qualification.

#### **2.1.4 Staffing**

A YSO staffing plan (Reference 6.7) has been developed to document the current YSO staffing level and to justify and prioritize additional staffing needs over a five-year period. The staffing plan is a living document that is updated periodically to reflect the staffing that is needed to effectively carry out YSO oversight, technical, and safety responsibilities as identified in Federal and State Laws, DOE/ NNSA Orders and policies, and YSO strategic goals and objectives. Progress toward recruiting and filling vacancies is tracked on a frequent basis.

### **2.2 Business Systems**

#### **2.2.1 Quality Assurance Plan (QAP)**

A QAP (Reference 6.8) was developed to provide the basic guidance for development and application of implementing procedures with respect to QA concepts and practices. Implementing procedures for the various aspects of the plan are developed and maintained within the YSO operating procedures manual. The QAP utilizes the “graded approach” to ensure that activities are managed and assessed with a rigor that is proportional to importance to worker and public safety, mission success, environmental compliance, and economic consequences.

#### **2.2.2 DOE Orders and Directives**

ORO Directives are locally written documents that capture federal responsibilities contained in DOE Orders and policies (Reference 6.9). Integrated safety management responsibilities are also captured in the Functions, Responsibilities, and Authorities Manual (FRAM). The ORO Directives serve as procedures for ORO and some of the YSO functions by defining requirements, assigning local responsibilities and authorities, and providing supplemental information where required. These requirements flow down into YSO procedures when additional definition of YSO duties and responsibilities is required. As a result of the separation of NNSA/YSO from the reporting relationship with ORO, YSO is in the process of transitioning from ORO Directives to YSO NNSA Directives. A review of DOE directives is being performed to verify the adequacy of ORO/YSO procedures and the need for revised/new YSO procedures. The process to identify new or revised source requirements is being maintained through the YSO/ORO service arrangement.

The service arrangement is augmented by Reference 6.32 in describing how DOE O 251.1A, *Directives System*, dated January 30, 1998, is implemented within YSO.

### **2.2.3 Procedures and Command Media**

YSO has procedures to formally document business practices, work processes, activities, responsibilities and the ISMS framework as described in the Management System Description. The documentation of YSO actions in procedures and the required level of detail will be commensurate with the risk and importance of the work activities. The required procedures are contained in the Y-12 Site Office Operating Procedures Manual. A standard method for the initiation, preparation, review, approval, issuance, revision, and control of YSO procedures has been established in Reference 6.10. The receipt, processing, filing, storage, retrieval, and general maintenance of unclassified records and documents (command media) are controlled through Reference 6.10.

## **2.3 Performance Assurance (YSO)**

The performance assurance process is used to measure YSO performance against missions, goals, and objectives and provide a feedback mechanism for needed improvements and corrective actions. The performance assurance process consists of four elements: self-assessments, performance indicators, employee appraisal, feedback, and recognition; and routine status and performance reviews. The process is intended to assure YSO compliance with line management oversight of ES&H responsibilities as stipulated in DOE P 450.5, Line Environment, Safety and Health Oversight.

### **2.3.1 Self-Assessments**

The self-assessment program evaluates YSO's effectiveness in meeting customer (both internal and external) requirements and expectations, organization goals and objectives, and compliance with DOE/ NNSA Orders and policies as reflected in YSO procedures. Areas to be assessed include but are not limited to: surveillance and assessment program, deficiency tracking, procedures and records management, organization roles and responsibilities, commitment tracking, work authorization, change control, budgeting and prioritization, authorization agreements, facility representative program, ISMS, technical qualification and training. Assessments are conducted such that performance areas are covered at least once over a three-year period. An annual self-assessment schedule is developed prior to the start of each fiscal year. Assigned assessors conduct the self-assessment, review governing documents and records, interview staff, observe processes, products and results; and document the assessment process and conclusions. Deficiencies, corrective actions, and areas for improvement are documented and entered into the YSO Deficiency Tracking System (DTS). Progress is reviewed at least quarterly on schedule performance, trends, and corrective action resolution. Reference 6.11 provides additional detail regarding the process, responsibilities, and required actions.

### **2.3.2 Performance Indicators**

Performance Indicators (PIs) have been developed to measure and analyze key indices of YSO performance to identify areas needing attention and opportunities for improvement. The PIs are also used to demonstrate improving or deteriorating performance relative to identified goals and objectives. YSO PIs are different and distinct from contractor PIs that are related to actual mission and program execution. The YSO PIs will measure the overall effectiveness of the YSO in executing contractor oversight duties including improving contractor performance. PIs improve communication internally among YSO employees, as well as externally between the organization

and its customers and stakeholders. YSO PIs measure progress (planned versus actual performance) against established schedules and criteria for assessment schedules, baseline change control, corrective action tracking system, commitments, customer and diversity contacts, deficiency tracking system, field time, independent/ external assessments, lessons learned, occurrence reporting, program direction, security, staffing, and training. PIs are reported and reviewed by management on a monthly basis and discussed with employees periodically.

### **2.3.3 Employee Performance Plans and Appraisals**

Broad performance expectations for employees are documented in written annual performance plans based on employee position descriptions. These performance plans are supplemented by an addendum that contains individual employee goals and objectives that are developed on an annual basis and updated as needed. These are posted on the YSO internal website to facilitate implementation and to maintain emphasis on the importance of meeting these goals and objectives. These goals and objectives are aligned and derived from DOE and NNSA strategic goals and program guidance. DOE strategic goals and objectives flow down to overall organization goals and objectives for the YSO Managers then in turn flow down to managers/ supervisors and finally individual staff members. Timely, fair, and accurate employee performance evaluations and feedback is conducted to assure accountability in meeting DOE goals and objectives, and improvement in employee performance. Performance awards (individual and group) and recognition may include cash awards, time-off awards, quality step increases, certificates, and other non-monetary tokens of appreciation to recognize noteworthy employee performance, achievements, and developmental activities. Awards are based on measurable improvements to organizational systems and processes, attainment of organizational missions and goals, and support for management values and core competencies. Award choice and size are commensurate with the magnitude of the contribution. Several ORO directives govern employee performance plans and appraisals. [http://www.ornl.gov/doe\\_oro\\_dmg/orchklst.htm](http://www.ornl.gov/doe_oro_dmg/orchklst.htm)

### **2.3.4 YSO Status and Performance Reviews**

In addition to the more formal self-assessment, performance indicator, and employee appraisal, feedback, and recognition programs, YSO performance is also monitored through regularly scheduled status and performance reviews. These reviews occur through regularly scheduled NNSA staff and all hands meetings. In addition, a weekly meeting with the SOM and direct reports is scheduled with the sole purpose of evaluating what has changed within the scope of YSO activities that require revision to the management system description or one of the many implementing documents (e.g., YSO procedures, employee goals and objectives, AF/PBIs items, work scope authorization, etc.). This meeting will also assess YSO performance relative to the actions scheduled in the Management System Description Commitments Report.

## **3.0 Contractor Management**

### **3.1 Contract**

The contract between DOE/NNSA and its contractors always constitutes the basic agreement by which all work will be performed. The contract with BWXT (DE-AC05-00OR22800) contains applicable clauses (Section I) and representations and certifications (Section K) from Federal Acquisition Regulations (FAR) and Department of Energy Acquisition Regulations (DEAR). Special contract requirements applicable to NNSA operations are found in Section H. The contract contains a comprehensive statement of work (Section C) that details the applicable Y-12 work activities under the contract. The statement of work (SOW) is supplemented by more detailed work authorization directives (WADs) that are developed and

incorporated into the contract on an annual basis (Section J, Attachment G). In addition to laws and regulations, the contractor is required to comply with DOE directives. These directives include DOE and ORO orders, Standards/Requirements Identification Documents (S/RIDs) for environmental, safety health, and quality, and Work Smart Standards for engineering design and construction (Y-12 is currently in the process of transitioning from WSS to S/RIDs). The applicable directives are listed or referenced in Section J, Attachment E of the contract.

### **3.1.1 Budgeting and Prioritization**

The DOE /NNSA utilizes a three-year budget process for establishing the funding to be available for execution of its missions. Normally in December, DOE Headquarters provides budget guidance for its operations for the budget year, which is two years in advance of the present fiscal year. This guidance gives general direction on priorities and references various program direction documents for the site to begin preparation of its budget proposals. These proposals are weighted heavily on the present year's budget and the year-to-date cost experience along with the emphasis areas outlined in the budget guidance and the escalation guidance. In late January, the President's budget proposal is released. Using this document as a guide, Y-12 can refine its budget expectations and begin detailed planning on the methods of accomplishments needed to meet its mission and schedule requirements within the funds available. To support this effort preliminary basis of estimates (BOEs) are created to document funding requirements for Y-12 activities and programs (e.g., mission deliverables, infrastructure requirements, environmental, safety, and health programs, etc.) These BOEs are input into the annual field budget. The Y-12 proposed budget is presented at the annual field budget program review in late spring for the upcoming two years. The priorities of program/ funded activities are made with consideration given to input from ALO and HQ. This is an iterative process that continues throughout the fiscal year.

### **3.1.2 Work Authorization Directives**

From budget targets previously established, the preliminary BOEs are further developed to document the resources required to complete the scope of work identified in each WAD. The BOEs are prepared by the contractor for direct funded work, mission support, and overhead and then validated by a multi-disciplined YSO team. The WADs and BOEs are used to establish a baseline (Reference 6.13) at the beginning of each fiscal year relative to the scope of work planned, the schedule of the work and its associated cost. YSO monitors the scope, schedule and cost performance of the M&O Contractor throughout the fiscal year. To ensure adequate funding for ES&H overhead programs, the BOEs are developed in a time frame that is consistent with the ES&H 5-Year Management Plan. ES&H funding and issues are identified in the annual revision to the ES&H 5- Year management plan. Likewise, funding and issues related to security are identified in the annual revision to the Site Safeguards and Security (SSSP) plan. The WADs are incorporated into the contract before the beginning of each fiscal year (ideally) and placed under configuration control. Funded work activities form the basis for negotiating comprehensive and performance based incentives (Comp/PBIs) contained in the PEP.

Changes to the approved baseline are handled in a similar manner to the original documents (e.g., WADs and PEP). Baseline change proposals (BCPs) for changes to work scopes, funding levels, schedules and AF/PBIs are submitted and processed in accordance with Reference 6.13. The BCPs must contain adequate justification for the change with budgeting detail comparable to the original BOE. The BCPs are reviewed by the appropriate YSO staff and submitted to the change control board (CCB) for approval. Each of the direct reports is represented on the CCB. Change control for projects is addressed in the next section.

### **3.1.3 Project Authorization and Oversight**

YSO is responsible for ensuring that contractor initiated projects at Y-12 are planned, designed, constructed, tested, and placed into service meeting technical requirements of DOE directives on schedule and within budget. Active participation and involvement of all YSO staff under the oversight of the Senior Project Manager (e.g., program managers, project managers, operations, system engineers, safety, security, etc.) is required to achieve success. Management of projects consists of five phases: planning phase, execution phase/design, execution phase/construction, and transition to operations and closeout phase. Projects undergo a formal approval process consisting of five critical decisions: CD-0 (Approve Mission Need), CD-1 (Approve Preliminary Baseline Range), CD-2 (Approve Performance Baseline), CD-3 (Approve Start of Construction), CD-4 (Approve Start of Operations). The roles and responsibilities, required activities, deliverables for each project phase/ critical decision, and the change control process are detailed in References 6.14, 6.15, 6.16, 6.17, 6.18, 6.19, and 6.20.

### **3.1.4 Authorization Agreements**

Safety analyses of plant operations are performed to demonstrate that the health and safety of the public, workers and the environment are protected from the accidental release of hazardous materials or energy. Analyses for nuclear facilities are documented in Safety Analysis Reports (SAR), Basis for Interim Operations, Operational Safety Requirements/Technical Safety Requirements (OSR/TSR), and other selected safety documents such as positive Unreviewed Safety Questions (USQ) in accordance with 10 CFR 830.200. Hazard Evaluation Reports or Safety Analysis Reports are prepared for non-nuclear facilities with other than standard industrial hazards in accordance with DOE Order 5481.1B, Safety Analysis and Review System (referenced in Y-12 S/RID, order cancelled). YSO contractor oversight includes the review and approval of these safety documents in accordance with Reference 6.21 and 6.29. This review ensures that the hazards associated with approved work are identified and the appropriate controls are developed and defined. YSO prepares safety evaluation reports (SERs) to document that Authorization Basis documents were prepared with valid methodologies, accurately reflect operations, and that the results demonstrate safety is achieved. Authorization Agreements (AA) are the primary mechanism for DOE to authorize the performance of work, to document acceptance of the risk associated with the analyzed operations, and to reference applicable analyses, controls, environmental permits, and environmental analyses (EA & EIS) that must be maintained. Authorization Agreements (Reference 6.22) are analogous to NRC licenses for commercial nuclear plants.

### **3.1.5 Integrated Safety Management System (ISMS)**

The safety management system for the Y-12 plant has been verified by an independent HQ review team. The system provides a formal, organized process whereby people plan, perform, assess, and improve the safe conduct of work. The Safety Management System is institutionalized through DOE directives, procedures and contracts to establish the Department-wide safety management objective, guiding principles, and functions. A system is in place to maintain an effective ISMS and making appropriate adjustments as lessons are learned and budgets and missions change. YSO contractor oversight ensures the ISMS integrity will be maintained and independently reviewed utilizing the DOE G 450.1, Integrated Safety Management System Guide.

### **3.1.6 Environmental Permits and Environmental Management System**

The Y-12 Plant is regulated by the State of Tennessee and the Environmental Protection Agency. Plant operations must comply with numerous permits such as the Y-12 Site National Pollutant Discharge Elimination System Permit (TDEC), Aquatic Resource and Alteration Permit (TDEC), Y-12 Site Industrial and Commercial User Wastewater Discharge Permit (COR), the Y-12 Site Air Pollution Control Permits (TDEC), and Resource Conservation and Recovery Act (RCRA) permits (TDEC). Permits are signed by BWXT and by DOE where appropriate.

The Y-12 National Security Complex is committed to the implementation of an Environmental Management System (EMS) consistent with DOE Notice 450.4 "Assignment of Responsibilities for Executive Order 13148, Greening the Government through Leadership in Environmental Management." A key strategy of the implementation plan is to integrate the EMS into the existing Y-12 Integrated Safety Management System. The assumption is the EMS will embody the spirit and principles of the ISO 14001 international standard and lead to improved environmental performance at Y-12. Full implementation of an EMS must be complete by December 31, 2005.

It is the commitment of YSO to act as a responsible steward of the environment. This stewardship will be based on the principles of ecosystem management and sustainable development. Managing programs and projects in a way that prevents pollution and is protective of the environment and of the public health is the primary consideration of all YSO activities. Environmental, mission, and financial stewardship are integrated into the planning and execution of work to consider and mitigate the impacts of all its activities on the environment. This effort is necessary to comply with all applicable requirements of federal, state, and local statutes and their implementing regulations; permits, orders, or judicial decrees; enforceable provisions of negotiated agreements between YSO and regulators.

### **3.1.7 Startup and Restart Authority**

Y-12 must comply with DOE directives regarding the startup or restart of nuclear facilities, operations, or processes. YSO assures the adequacy of the contractor's startup or restart readiness processes by a combination of line function participation and oversight. Startup and restart efforts are categorized as readiness assessments and operational readiness reviews. The criteria and actions for each type of review as well as the roles and responsibilities for YSO and the contractor are defined in Reference 6.23.

### **3.1.8 Price Anderson**

The Department of Energy (DOE) provides for the indemnification of DOE Contractors who manage and conduct nuclear activities in the DOE Complex through the PAAA. The PAAA is the management tool available to regulate Nuclear Safety activities of the Contractor. The Secretary has the authority to issue civil penalties to indemnified contractors when noncompliances with nuclear safety requirements are identified. Additionally, for cases involving willful or malicious noncompliance, criminal sanctions may be pursued. The YSO has the responsibility for oversight of BWXT Y-12 implementation of the PAAA program to assure a robust contractor program with prompt identification, tracking, corrective action, and lessons learned for noncompliances with nuclear safety requirements. (See Reference 6.30).

## **3.2 Performance Assurance (Contractor)**

### **3.2.1 Performance Evaluation Plan (PEP)**

The PEP is the primary mechanism to incentivize the contractor to successfully meet mission and program requirements in a safe, reliable, and environmentally compliant manner. The PEP describes the overall performance evaluation process, roles and responsibilities, schedule, and documents the actual award fee criteria and performance based incentives used to incentivize contractor performance. The maximum amount of fee available to incentivize the contractor (fee pool) is derived from fee curves contained in Department of Energy Acquisition Regulations (DEAR). The fee pool amount and the split between performance objectives (PO) and performance-based incentives (PBIs) is established in Appendix B of the contract. YSO strives to improve contractor performance by being a demanding customer as evidenced by aggressive PO and PBI measures that are negotiated with the contractor. The Comprehensive and PBI measures are based on ALO and HQ programmatic guidance, and YSO goals and objectives. PBIs contain memorandums of agreement (MOAs) that specify additional detail regarding expectation and the break down of available fee among multiple milestones and deliverables. An award fee board composed of YSO managers and direct reports is responsible for developing the PEP, providing feedback to the contractor, and recommending payment of fee to the SOM. Changes to the PEP are approved through the change control process.

### **3.2.2 Contractor Oversight**

YSO's principal responsibility is to administer the contract and maintain an effective oversight program of the Management and Operating (M&O) Contractor to ensure performance within the approved ISM program in meeting successful mission and program requirements in a safe, secure, reliable, and environmentally compliant manner. The process is intended to assure YSO and contractor compliance with line management oversight of ES&H responsibilities as stipulated in DOE P 450.5. Contractor performance is assessed by responsible staff members on a daily and weekly basis through interface with their contractor counterparts, attendance at monthly manufacturing, program, financial, project, modernization, startup/restart, operations, and safety status meetings; and through formal assessments.

#### **3.2.2.1 Performance Assessments**

The oversight process involves four phases (Reference 6.24) that include: assessment planning and scheduling, conduct of assessments, documentation and communication of assessment results, and deficiency tracking and closure. The YSO oversight process contains three types of assessments: monthly assessments (Reference 6.25), facility representative walk-throughs and assessments (Reference 6.5), and Management walk-around surveillances (Reference 6.26).

The master assessment plan (MAP) is used to plan and schedule assessment activities over a given three-year period. Assessments are conducted based on the contractor's ISM program performance, the results of the PAM reports (see section 3.2.2.3) and administrative compliance to S/RID requirements, which are broken down into a functional area matrix. Each functional area has elements that are scheduled as assessments, which evaluate the Contractor's performance adherence to the S/RID requirements for that particular area. For each functional area, an information sheet provides a scope description, identifies the base coverage period, provides a justification for the base coverage period, identifies the lead YSO organization, and lists the elements that make up the functional area. Areas to be assessed (functional areas, facilities, etc.) on a monthly/quarterly basis are identified in an annual assessment plan. Deficiencies and

weaknesses identified through the monthly assessments are documented in the monthly assessment report (MAR).

Facility Representatives conduct walk-throughs and assessments of operations in assigned facilities. Walk-throughs are conducted to identify hazards, incidents of noncompliance with standards and guidelines, and potential problem areas where more thorough inspection is warranted (i.e., pulling the string) and to monitor changes to the facility from construction, maintenance, and temporary modifications. Other areas assessed include operational performance, quality assurance, management control, security and assurance of worker health and safety.

The management walk-around surveillance program includes inspection tours by managers and senior staff of Y-12 buildings and operations. They are accompanied by Facility Representatives (FR) or other YSO staff performing routine field duties. The intent of the walk-around surveillance program is for managers to spend field time in the plant actually observing activities and conditions, with focus on personnel actually performing operational, production, testing, or maintenance activities in the field. These walk-throughs are scheduled quarterly and performed bi-weekly.

#### **3.2.2.2 Deficiency Tracking**

Deficiencies identified through the oversight process are tracked through the deficiency tracking system (DTS). Reference 6.29 identifies responsibilities and provides a process for identifying and monitoring the correction of performance-based deficiencies in both YSO and contractor activities. The review, concurrence, and approval of DOE corrective action plans (CAPs), and Request for Closures (RFCs) via the DTS database are identified. Tracking actions and commitments contained in correspondence needs to be improved.

#### **3.2.2.3 Performance Feedback**

YSO assesses contractor performance and provides feedback (orally and in writing) on a monthly basis through the Performance Analysis Matrix (PAM) process. This process produces an annual report evaluating contractor performance that will be the primary input to the Comprehensive section of the PEP report. The annual baseline report is updated monthly with summarizing results of monthly assessments, surveillances, walk-throughs, award fee input, and observations (See Reference 6.31). A color-coded score is assigned to each safety, security, operations, and program focus area to reflect the observed level of performance and an arrow is used to show the performance trend (increasing or decreasing). The monthly update report is a communication tool that provides real-time feedback to the contractor in order that corrective actions can be taken as needed. The monthly update provides a snapshot of observed performance on a month to month basis prior to the official issue and scoring of comprehensive criteria.

#### **3.2.2.4 Stop Work Authority**

Any condition that has caused or poses an imminent danger to people, property, the environment, or the operational integrity of a facility shall be cause for YSO action to immediately suspend operations upon identification of the condition. Reference 6.28 gives additional guidance concerning stop work authority.

#### **4.0 YSO Strategic Planning**

The vision for both the near term and the long-term future of the Y-12 National Security Complex is included in the YSO Strategic Plan. The plan captures the upper level goals and strategies contained in the NNSA Strategic Plan and the Defense Programs Integrated Plan and translates them into YSO/Y-12 specific goals, objectives, and actions. The annual activities that are required to implement the strategic plan flow through the YSO Strategic Plan and are contained in YSO staff performance plans and contractor performance objectives and performance-based incentives contained in the PEP. The strategic plan is updated annually as required.

#### **5.0 ISM Implementation and Continuous Improvement**

The YSO Management System Description encompasses the fundamental principles and core functions of ISM and provides the DOE roles and responsibilities for ISM implementation and continuous improvement. The YSO management system description establishes the DOE oversight and interface function with the M&O contractor which meets the intent of the five core functions and guiding principles of ISM. A crosswalk between this management system description and the ISM functions and guiding principles is contained in Attachment 1.

YSO performs self-assessments to ensure the ISMS integrity will be maintained and reviewed on an annual basis. The schedule is maintained in the YSO Master Assessment Plan. Self-assessments are conducted using the process described in Section 2.3.1, Self Assessments, and will examine how the ISMS principles are integrated across all divisions within YSO. An annual assessment of the contractor's ISMS program is scheduled in the YSO Master Assessment Plan. This assessment will follow the process described in Section 3.2.2.1, Performance Assessments. Both ISMS annual reviews utilize the Integrated Safety Management System (ISMS) Guide (DOE G 450.1).

#### **6.0 References**

- 6.1 "Manual of Safety Management Functions, Responsibilities, and Authorities, Level II, for Y-12 Site Office," YSO M 411.1-1
- 6.2 "Service Arrangement between Oak Ridge Operations Office and Y-12 Site Office, National Nuclear Security Administration"
- 6.3 YSO-2.1, "Technical Qualification Training Program"
- 6.4 YSO Technical Qualification Standard
- 6.5 YSO-1.6, "Facility Representative Program"
- 6.6 Y-12 Defense Programs Facility Representative Qualification Program
- 6.7 Oak Ridge NNSA Five Year Staffing Plan
- 6.8 YSO-3.0, "YSO Quality Assurance Program"
- 6.9 ORO O 250, Chapter II, "ORO Directives System."
- 6.10 YAO-5.1, "Preparation and Configuration Management of Command Media"
- 6.11 YSO-3.3, "Self-Assessment"

- 6.12 YSO-1.10, "Program and Financial Management"
- 6.13 YSO-1.7, "Baseline Change Control Process"
- 6.14 YAO-6.2, "Baseline Change Control- Capital Projects"
- 6.15 YSO-6.3, "Oversight of Projects"
- 6.16 YSO-6.4, "Formal Review and Approval Activities for Projects"
- 6.17 YSO-6.5, "Project Risk Management"
- 6.18 YSO-6.6, "Transition to Operations"
- 6.19 YSO-6.8, "GPP/GPE Project Approval"
- 6.20 YSO-6.9, "Project Reporting"
- 6.21 YSO-5.20, "Review of Authorization Basis Documentation"
- 6.22 YAO-5.3, "Authorization Agreements"
- 6.23 YAO-5.4, "Startup and Restart of Nuclear Facilities at Y-12"
- 6.24 YSO-9.2, "Performance of Assessments"
- 6.25 YSO-1.9, "Master Assessment Plan"
- 6.26 YSO-9.6, "Management Walk-Around Surveillance"
- 6.27 YSO-3.2, "Assessment Reporting and Deficiency Processing"
- 6.28 YSO-5.10, "Shutdown Directives and Stop Work Orders"
- 6.29 YAO-5.15, "Unreviewed Safety Question Determination"
- 6.30 YAO-5.17, "Price-Anderson Amendment Act (PAAA) Program"
- 6.31 YAO-9.8, "Performance Summary"
- 6.32 YSO-1.12, "YSO Directive System Process"
- 6.33 "Y-12 Site Office Facility Representative Interim Qualification Program,"

## Attachment 1

### Crosswalk of YSO Management System Description and ISM Functions and Guiding Principles

#### ISM Functions:

##### Define the Scope of Work

Contract Statement of Work  
Budget Submittals  
Work Authorization Directives  
Employee Performance Plans  
Performance Evaluation Plan  
FRAM  
Annual Assessment Plan

##### Analyze the Hazards

Authorization Basis Review and Approval Processes

##### Develop and Implement Controls

Authorization Basis Review and Approval Processes  
Authorization Agreements  
Baseline Change Control  
YSO Procedures

##### Perform Work Within Controls

Authorization Basis through Implementation  
YSO Procedures  
Assessments  
Annual Personnel Performance Plans  
Goals and Objectives

##### Provide Feedback and Continuous Improvements

Authorization Basis through USQD Process  
MAR  
YSO Performance Indicators  
Employee Appraisals  
Self Assessments  
PEP  
PAM

## **ISM Guiding Principles**

### Line Management Responsible for Safety

FRAM  
YSO Procedures and Standards

### Clear Roles and Responsibilities

FRAM  
Employee Performance Plans  
YSO Procedures and Standards  
Position Descriptions  
YSO Mission and Function Statement  
Goals and Objectives

### Competence Commensurate with Responsibilities

Technical Qualification Program  
Individual Development Plans  
Facility Representative Qualification and Interim Qualification Programs  
Employee Performance Plans  
YSO Staffing Plan  
Position Descriptions

### Balanced Priorities

Work Authorization Directives  
ES&H Management Plan  
SSSP  
Strategic Plans  
PEP  
Annual Assessment Plan

### Identification of Safety Standards and Requirements

YSO Procedures and Standards  
S/RIDs  
Authorization Agreements

### Hazard Controls Tailored to Work Being Performed

AB review and approval processes  
Authorization Agreements  
YSO Procedures and Standards

### Work Authorization

Authorization Agreements  
Work Authorization Agreements  
YSO Startup and Restart Procedure