

The purpose of this document is to describe how the Thomas Jefferson Site Office (TJSO) has integrated the management system requirements from DOE Policy 450.4, DOE Manual 450.4-1, DOE Order 450.1, DOE Order 414.1C, DOE Order 226.1A, DOE Order 413.3A, and DOE Order 420.2B. These DOE Orders have a number of requirements that have been integrated into the daily management practices of the TJSO. The Office has established a set of program plans and descriptions (including the ISM Program Description, the QA Program Plan, the FEOSH Program Plan, the Operational Awareness Plan, the FRAM, and the Annual Performance Plan) to control its management and oversight activities. The Annual Performance Plan is a key document that establishes the annual goals and objectives related to performance to meet the DOE Orders. The primary tool that the Site Office utilizes to implement these upper tier requirements is a set of Standard Operating Plans and Procedures (SOPP's). These SOPP's cover topics such as roles and responsibilities for contractor oversight (including ESH&Q), training, corrective action, records and document management, self assessment, and independent assessments.

DOE Policy 450.4, Safety Management System Policy – This document is the foundation of the Integrated Safety Management (ISM) program. The ISM program is focused on a work planning approach that integrates safety into the process, establishes a set of approved procedures for performing work, and provides for performance measures to determine when agreed-upon levels of safety are achieved. Effective work planning is critical to successful implementation of ISM. The processes that have been put in place for planning and overseeing work and ensuring that adequate levels of safety are achieved are very similar to those necessary to meet many of the other Order requirements, such as DOE Order 414.1C and DOE Order 226.1A. As an example, Attachment 1 depicts the relationship between the QA Order and ISM program.

DOE Manual 450.4-1, Integrated Safety Management System Manual - The purpose of this Manual is to clearly identify and institutionalize DOE requirements and responsibilities regarding development and implementation of the Integrated Safety Management System (ISMS) within DOE. The Manual provides requirements and guidance for TJSO and Jefferson Laboratory (JLab) to ensure development and implementation of an effective ISMS that is periodically reviewed and continuously improved.

The TJSO ISMS is documented in the ISM Program Description (SOPP 4.9). The Program Description describes how the TJSO implements DOE Policy 450.4 and the requirements specified in DOE Manual 450.4-1 1. The ISMS PD also discusses how TJSO staff work in a safe and environmentally responsible manner and is integrated with quality assurance and other processes for planning, conducting, and evaluating work, and for providing feedback. TJSO's safety management functions, responsibilities, and authorities for ensuring adequate protection and safe operations are specified in the FRAM, SOPP 4.10.

DOE Order 414.1C, Quality Assurance – This Order requires that TJSO's products and services meet or exceed customers' expectations. Quality must be assured and maintained through a single, integrated, and effective quality assurance (QA) program. Management must provide support for planning, organization, resources, direction, and control is essential to QA. The Order also requires that performance and quality improvement require thorough, rigorous assessment and corrective action.

The TJSO Quality Assurance Program is described in SOPP 4.6. The QA program focuses on a work planning approach that integrates quality into the process, establishes a set of approved procedures for performing work, and provides for performance measures to determine when agreed-upon levels of quality are achieved. A crosswalk of the DOE Order 414.1C criteria and the Integrated Safety Management (ISM) guiding principles and core functions is found in Attachment 1.

DOE Order 226.1A, Implementation of Department of Energy Oversight Policy – This Order requires that TJSO perform oversight of processes through inspections, reviews, surveillances, surveys, operational awareness, and walkthroughs. These oversight activities are designated to assure that JLab has adequate and effective programs and management systems. TJSO prepares documented annual schedules for both planned assessments and focus areas for operational oversight. SOPP 4.5, Operational Awareness Plan, is the key procedure that TJSO utilizes to implement this order. There are four key focus areas that contractor assurance is focused on: environment, safety and health; safeguards and security; cyber security; and emergency management. The Contractor Assurance System at the contractor level addresses incident/event reporting; worker feedback; documenting, tracking and closing issues resulting from assessments and events; dissemination of lessons learned; and the processes used to identify, monitor, and analyze performance measures. This Order is closely linked to elements nine and ten of DOE Order 414.1C. Management assessment and independent assessment are important functions in a healthy contractor assurance system. TJSO management is also required to incorporate the elements of the SC Management System Program Description for Line Management Oversight into its oversight activities.

DOE Order 450.1, Environmental Protection Program – This Order requires that TJSO assure that JLab implements sound stewardship practices that are protective of the air, water, land, and other natural and cultural resources impacted by JLab operations. TJSO also assures JLab cost effectively meets or exceeds compliance with applicable environmental; public health; and resource protection laws, regulations, and DOE requirements. This objective is accomplished by implementing an Environmental Management Systems (EMS). The EMS is a continuing cycle of planning, implementing, evaluating, and improving processes and actions undertaken to achieve environmental goals.

TJSO assures that the JLab ISMS includes the following environmental requirements:

- (1) Provides for the systematic planning, integrated execution, and evaluation of programs for—
 - (a) public health and environmental protection,
 - (b) pollution prevention (P2), and
 - (c) compliance with applicable environmental protection requirements.
- (2) Includes policies, procedures, and training to identify activities with significant environmental impacts, to manage, control, and mitigate the impacts of these activities, and to assess performance and implement corrective actions where needed,
- (3) Includes measurable environmental goals, objectives, and targets that are reviewed annually and updated when appropriate.

DOE Order 413.3A, Program and Project Management for the Acquisition of Capital Assets – This Order requires that the TJSO provide project management direction for the acquisition of capital assets with the goal of delivering projects on schedule, within budget, and fully capable of meeting mission performance, safeguards and security, and environmental, safety, and health standards. Fundamental project management principles are similar to ISM and QA principles: line management accountability, planning, performance baselines and measures, and change control. Critical Decisions 1 through 4 have requirements for safety management, including environmental management, quality assurance, and safety and health.

DOE Order 420.2B, Safety of Accelerator Facilities – This Order establishes accelerator-specific safety requirements, that when supplemented by applicable safety and health requirements, serve to prevent injuries and illnesses associated with JLab accelerator operations. The Order also requires the creation of a Safety Assessment Document (SAD). The SAD contains descriptions of many of the same elements of an ISMS or QA system. For example, the SAD must address hazards and the controls to mitigate them. It is also required to address training and qualification requirements and must address a system of formal procedures for controlling accelerator work activities. These procedures contain criteria and principles that are directly related to DOE Order 414.1C and ISM core functions and principles.

TJSO Standard Operating Plans and Procedures - Many of the TJSO SOPP's are used to implement the multiple, often overlapping requirements from the DOE Orders above. For example, the Site Office has elected to utilize one corrective action system (with the aid of ORION) to document, and correct findings, issues, problems, and concerns that are identified as part of overseeing the implementation of DOE 414.1C, DOE Order 450.1, DOE Manual 450.4-1, and DOE Order 226.1A. This common corrective action system, as described in SOPP 4.5, Operational Awareness Plan, is the management tool that is being used to ensure that timely corrective action is taken when violations of requirements are identified by TJSO staff during JLab or federal staff work activities.

Similarly, the TJSO has set up one document management system to manage its implementing plans and procedures that are necessary to implement the requirements of DOE 414.1C, DOE Order 450.1, DOE Manual 450.4-1, and DOE Order 226.1A. SOPP 4.2, Standard Operating Plans and Procedures System describes the formal mechanism for developing, reviewing, revising, and issuing Site Office plans and procedures.

Each of the DOE Orders above requires that formal records be kept to provide objective evidence that required work activities were performed. SOPP 4.7, Records Management Procedure, discusses the requirements that TJSO staff must follow when generating, storing, indexing, and maintaining records. One records system is utilized for the office.

All of the regulations cited above require that some level or type of assessment be performed to ensure compliance. SOPP 4.5 has requirements for performing assessments of most Site Office and JLab activities. The TJSO staff is required to perform walkarounds, self assessments, and surveillances that evaluate compliance and performance in accordance with the Orders and Regulations cited above and many other Orders and Regulations. There is one integrated

TJSO/JLab integrated schedule for conducting assessments in the areas of quality assurance, environment, safety, health, and security. SC HQ also issues an SC-wide integrated oversight schedule that includes TJSO activities.

Thus, TJSO is implementing an integrated management system to meet the applicable DOE Orders and SC requirements.

Attachment 1: Crosswalk of Quality Assurance and Integrated Safety Management System Elements

Quality Assurance Criteria ISM Principles and Functions	Program	Training and Qualification	Quality Improvement	Documents and Records	Work Processes	Design	Procurement	Inspection/Acceptance Testing	Management Assessment	Independent Assessment
ISM Guiding Principles										
Line Management Responsibility for Safety					x					
Clear Roles and Responsibilities	x			x	x					
Competence Commensurate with Responsibilities		x								
Balanced Priorities	x									
Identification of ES&H Standards and Requirements				x	x	x	x	x		
Hazard Controls Tailored to Work Being Performed				x	x	x	x	x		
Operations Authorization								x		
ISM Core Functions										
Define the Scope of Work					x		x			
Analyze the Hazards						x				
Develop and Implement Hazard Controls					x	x	x			
Perform Work within Controls					x			x		
Provide Feedback and Continuous Improvement			x					x	x	x