

Thomas Jefferson National Accelerator Facility

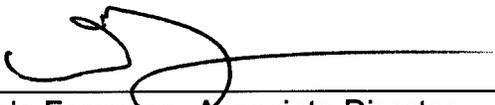
**10 CFR 851
Worker Safety and Health Protection Program (WSHPP)**

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Thomas Jefferson National Accelerator Facility
10 CFR 851 Worker Safety and Health Protection Program (WSHPP) Approval

Record of Approval

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CROSSWALK TABLE A3-1**

Acronym List

AHJ	Authority Having Jurisdiction
CATS	Corrective Action Tracking System
DOE	Department of Energy
EH&S	Environmental Health and Safety (Note 1)
ES&H	Environmental, Safety and Health
ESH&Q	Environmental, Safety, Health, and Quality
FSAD	Final Safety Assessment Document
ISMS	Integrated Safety Management System
NFPA	National Fire Protection Association
NTS	Non-compliance Tracking System
JSA	Jefferson Science Associates, LLC
M&O	Management and Operating
OR	Occurrence Reports
ORPS	Occurrence Report Processing System
PEMP	Performance Evaluation and Measurement Plan
QA & CI	Quality Assurance and Continuous Improvement
SME	Subject Matter Expert
SOP	Standard Operating Procedure
SURA	Southeastern Universities Research Association
TJNAF	Thomas Jefferson National Accelerator Facility
TJSO	Thomas Jefferson Site Office
WSHPP	Worker Safety and Health Protection Program (-D Document)

Notes:

The EH&S acronym is used to refer to the EH&S Manual and is retained until the Manual is completely changed over the ESH(&Q) terminology.

Definition of Terms

Contractor – any entity under contract with DOE, or a subcontractor at any tier, that has responsibilities for performing work at a DOE site in furtherance of a DOE mission.

(Note: For purposes of the 10CFR851 Rule, the definition of contractor includes subcontractors at any tier. Technically, everything JSA procures in support of the prime contract is a subcontract. Other JSA documentation (e.g., procurement policies and manuals, EH&S Manual) uses the term subcontractor to describe entities working under contracts with JSA. For consistency with DOE terminology, this Worker Safety and Health Protection Program Document (WSHPP-D) will use the term contractor to refer to subcontractors to JSA.)

Construction - means combination of erection, installation, assembly, demolition, or fabrication activities involved to create a new facility or to alter, add to, rehabilitate, dismantle, or remove an existing facility. It also includes the alteration and repair (including dredging, excavating, and painting) of buildings, structures, or other real property, as well as any construction, demolition, and excavation activities conducted as part of environmental restoration or remediation efforts.

Construction Contractor – the lowest tiered contractor with primary responsibility for the execution of all construction work described within a construction procurement or authorization document (e.g., construction contract, work order).

Covered Workplace – a facility or place at a DOE site where a contractor is responsible for performing work in furtherance of a DOE mission.

DOE site – means a DOE-owned or leased location, controlled by DOE, where activities and operations are performed at one or more facilities or places by a contractor in furtherance of a DOE mission. For the purpose of this Worker Safety and Health Program Plan, this definition includes all sites where DOE exercises regulatory control under the Atomic Energy Act, even if DOE does not own or lease the site (e.g., JSA personnel working in the leased areas of the Applied Research Center).

Jefferson Science Associates (JSA) Controlled Premises - Real property or buildings (or portions thereof) owned, leased, or permitted to DOE and designated for Thomas Jefferson National Accelerator Facility (TJNAF). This includes leased or permitted commercial space (e.g., Applied Research Center); but it does **not** include sites where JSA performs TJNAF work but DOE has no control (e.g., SURA residence facility, Blue Crab warehouse).

1.0 Executive Summary

Thomas Jefferson National Accelerator Facility (TJNAF), located in Newport News, Virginia, is operated for the United States Department of Energy (DOE) by Jefferson Science Associates (JSA), LLC under a management and operating (M&O) contract. TJNAF is a Federally Funded Research and Development Center (FFRDC) established in accordance with the Federal Acquisition Regulation (FAR) Part 35.

As one of the DOE's Office of Science (SC) program-dedicated Laboratories, TJNAF uses intense polarized electron beams to conduct research for the DOE Nuclear Physics Program. This research addresses one of the five major scientific questions of the Nuclear Physics Program identified in the DOE/National Science Foundation (NSF) Nuclear Science Advisory Committee's 2002 Long Range Plan. TJNAF investigates the fundamental structure of matter and is also home to United States' expertise in superconducting accelerator technologies. User facilities include the Continuous Electron Beam Accelerator Facility and the Free-Electron Laser. JSA has approximately 750 employees, and more than 2,000 researchers from around the world are users of these facilities. JSA is the prime contractor operating the TJNAF Newport News site under a contract with DOE. Several small businesses provide service support at TJNAF under contracts with both TJSO and JSA.

This document comprises the JSA Worker Safety and Health Protection Program Description (WSHPP-D). As such, this document contains no new safety requirements. The purpose of this document is to describe the JSA Worker Safety and Health Protection Program (WSHPP) and associated policies, requirements, processes, methods and procedures that, when implemented, reduce or prevent occupational injuries, illnesses, and accidental losses by providing employees and contractors a safe and healthy workplace and result in compliance with requirements located in 10 CFR 851 Subpart C and Appendix A. The separately approved Integrated Safety Management System, Quality Assurance Plan, and EH&S Manual are the means by which worker safety and health requirements are identified and WSHPP policies, requirements, processes, methods, and procedures described by this document are implemented at or integrated into mission work activities performed at TJNAF.

In accordance with 10 CFR 851.11, this document must be approved by the DOE Thomas Jefferson Site Office (TJSO). The individuals responsible for approval are listed on the signature sheet at the front of this document.

2.0 Purpose and Scope

This WSHPP is written in accordance with requirements provided by the DOE "Worker Safety and Health Program; Final Rule" 10 CFR Part 851 published in the Federal Register on February 9, 2006. The WSHPP describes the requirements of 10 CFR 851 and relationships to JSA's Integrated Safety Management System (ISMS).

This WSHPP document accomplishes the following seven goals:

1. Identifies the purpose and scope of the JSA WSHPP.
2. Identifies roles and responsibilities for all levels within the JSA organization and for JSA subcontractors relative to worker safety and health protection.
3. Describes JSA safety and health program processes for implementing worker safety and health requirements specified in 10 CFR 851 Subpart C.
4. Describes aspects of the JSA Integrated Safety Management System utilized to ensure compliance with worker safety and health regulations.
5. Identifies principal JSA safety and health programs.
6. Incorporates JSA's feedback and improvement process to identify non-conformances and reporting of noncompliance.
7. Provides an implementation matrix that:
 - a. Serves to record a review of the Rule requirements, and
 - b. Lists JSA documentation that provides processes for 10 CFR 851 requirements implementation including requirements referenced in 10 CFR 851.23 and 851.27.

2.1 Purpose

10 CFR 851.1(a) and (b)(1) & (2)

The purpose of this WSHPP document (WSHPP-D) is to describe the relationship between the approved JSA ISMS and WSHPP and associated policies, processes, and procedures that, when properly implemented, reduce or prevent occupational injuries, illnesses, and accidental losses by providing JSA employees and contractors a safe and healthy workplace. This document also serves to document compliance with requirements 10 CFR 851 Subpart C and Appendix A.

The TJNAF WSHPP is comprised of the following program areas:

1. Construction Safety
2. Fire Protection
3. Pressure Safety
4. Industrial Hygiene
5. Occupational Medicine
6. Motor Vehicle Safety
7. Electrical Safety

The Industrial Hygiene program area addresses Chronic Beryllium Disease Prevention, Lead Handling, Asbestos, Confined Space, and Respiratory Protection and others. Other related industrial hygiene safety areas include cryogenics safety and laser safety programs, as well as other supporting functions including Lockout/Tagout, Fall Prevention/Fall Protection, and Material Handling. JSA does not perform work at TJNAF in the 10CFR851 program areas involving Biological Safety, Explosives Safety, or Firearms Safety and therefore does not maintain programs in these areas. Currently,

DOE has reserved establishing requirements for Nanotechnology and Workplace Violence Prevention Safety program areas.

The ESH&Q Quality Assurance and Continuous Improvement program area elements include Injury and Illness Reporting, Technical Analysis of Health and Safety Information, and other feedback and improvement program elements. The Quality Assurance and Continuous Improvement System Program homepage contains descriptions of other program area elements not included here.

Excluded from the WSHPP are environmental hazards or radiological hazards to the extent regulated by 10CFR820, 830, or 835. Also excluded are work activities performed away from a DOE site, such as transportation activities to and from JSA controlled premises, operations at the Blue Crab warehouse, or work at the SURA residence facility.

The JSA WSHPP-D is supplemented by the following documents:

- Facility Safety Assessment Document (FSAD) Operations and Safety Envelopes
- TJNAF Integrated Safety Management System Description
- EH&S Policy (EH&S Manual Chapter 1100)
- EH&S Manual Chapter Series
 - Construction Safety (Chapter 3420)
 - Fire Protection (6900 series)
 - Pressure Safety (Chapters 6122, 6151, and 6500)
 - Industrial Hygiene (6600 series)
 - Occupational Medicine (6800 series)
 - Motor Vehicle Safety (Chapter 6170)
 - Electrical Safety (6200 series)
- Facilities Management Master Specification 01525 (ES&H Requirements)
- Operational Level Documentation
 - Work Control Documents (SOP, OSP, TOSP, LSOP)
 - Fire Hazards Analysis
 - Occupational Exposure Assessment
 - Issue Management Procedure
 - Management and Independent Assessment Procedures

2.2 Scope

This document applies to all JSA employees and contractors performing DOE mission-related work activities and operations in TJNAF facilities located JSA-controlled premises. Contractors at JSA-controlled premises are also subject to the requirements of 10 CFR 851 and the JSA documents implementing these requirements.

3.0 Roles and Responsibilities

The approach to implementing worker safety and health program at TJNAF is translated through the assignment of roles and responsibilities in the EH&S Manual and Policy Statement based on the following three axioms:

1. All employees, users, and contractors are accountable for knowing and complying with the ES&H policies, standards, and procedures applicable to their work.
2. Our ES&H policy is an integral part of how JSA conducts business.
3. ES&H implementation shall be based on specifically defined requirements and shall incorporate a graded approach that conservatively balances risk and schedule priorities.

The roles and responsibilities for all JSA employees and TJNAF users are presented in EH&S Manual Chapters 1100 (*Laboratory Policy on Safety, Health, and Environmental Protection*) and 2210 (*ESH&Q Responsibilities of Individuals*). Specific responsibilities are defined in other chapters of the EH&S Manual. Safety and health requirements to be included for contractors to JSA are discussed in the *Acquisition Policy Manual*, Section IV. Additional information is provided in EH&S Manual Chapters 3410 (*ESH&Q Aspects of Material Acquisitions*) and 3420 (*ESH&Q Aspects of Procured Services & Construction*). For construction projects greater than \$100K, Facilities Management Department maintains Master Specification 01525 (*Environment, Safety and Health Requirements*) which specifies contractor safety and health requirements for written safety plans, required safety meetings, hazard analyses, safety reports, etc. JSA is the prime contractor operating TJNAF. Several small businesses provide service support at TJNAF under contracts with both TJSO and JSA

4.0 Implementing Programs

4.1 Requirements Flow Down

10 CFR 851.11(a)(3)(i)&(ii)

JSA corporate safety and health requirements originate in DE-ACO5-06OR23177, *Management and Operating Contract Between Jefferson Science Associates, LLC and DOE*. Flow-down of WSHPP requirements occurs through the process described in EH&S Manual Chapter 2410 (*Applicable Regulations and Contract Commitments*). Figure 4.1A below is excerpted from EH&S Manual Chapter 2410 and shows the JSA process for worker safety and health requirements flow down. The various chapters of the EH&S Manual are the primary requirement documents that implement the safety and health requirements at the activity level. Other supporting Division plans and processes (e.g., Procurement Department Operations Manual, Administrative Manual, Accelerator Operations Directives) provide additional implementation details to the JSA employees and contractors.

EH&S Manual Chapter 2410 and associated appendices establishes the process for identifying, tailoring, communicating, implementing, modifying, and assessing

requirements and standards that are appropriate for TJNAF work activities. The Chapter and appendices describe the roles and responsibilities of various individuals specified in the requirements management and flow-down and tailoring processes. The ESH&Q Reporting Manager is assigned responsibility for tracking changes in laws, regulations, and applicable directives and standards and for bringing changes affecting the contract requirements set to the attention of the Director of Quality Assurance and Continuous Improvement and the ESH&Q Policy and Manual Manager. EH&S Manual chapter/appendix authors are responsible for ensuring changes to applicable laws, regulations and applicable directives and standards are incorporated into TJNAF documentation.

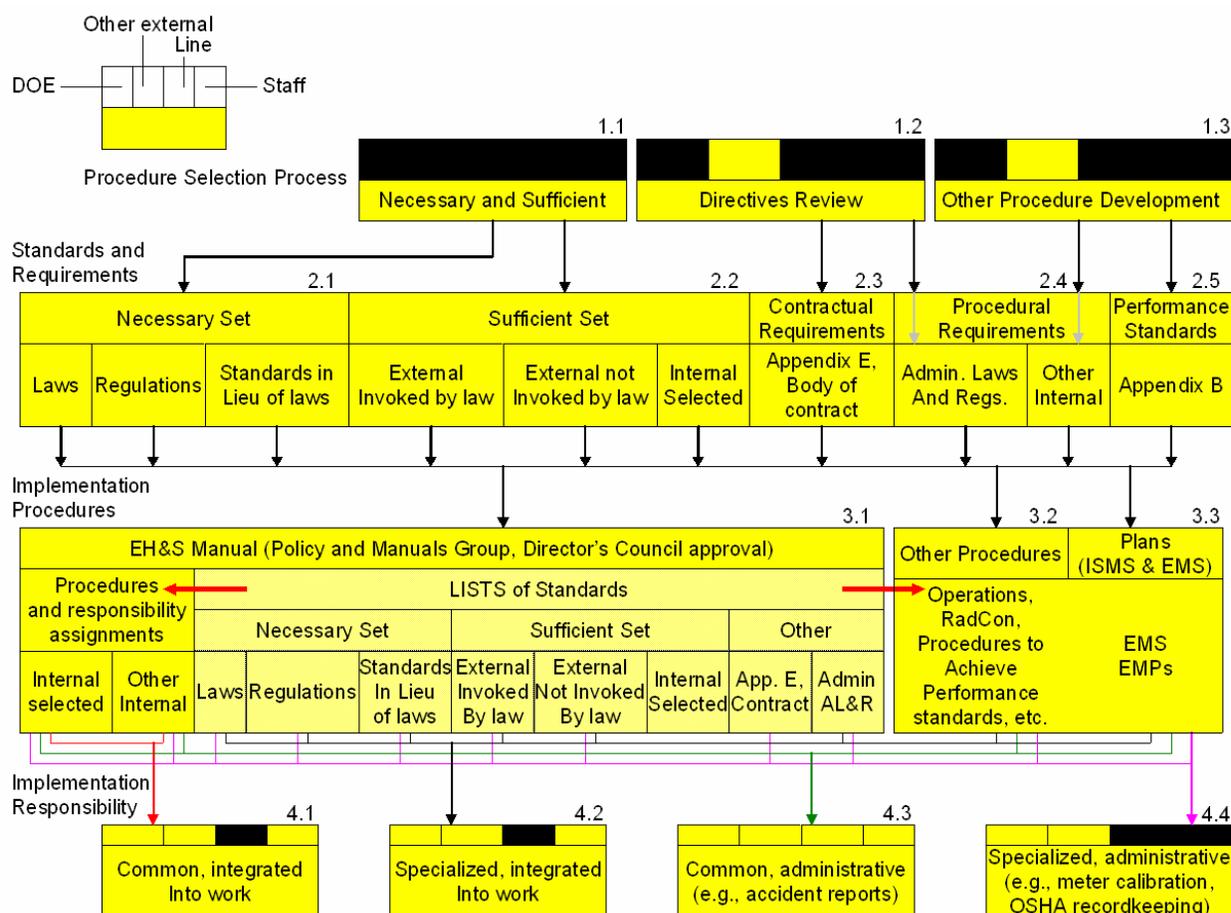


Figure 4.1: TJNAF Standards Implementation/Requirements Flowdown Process

The Procurement Department Operations Manual contains provisions for flow down of requirements to JSA contractors and sub-tier contractors (i.e., contract specific special specifications, and terms and conditions). These provisions, which are also reflected in EH&S Manual Chapters 3410 (*ESH&Q Aspects of Material Acquisitions*) and 3420 (*ESH&Q Aspects of Procured Services and Construction*) require JSA contractors and sub-tier contractors to comply with all applicable federal, state, and local worker safety and health regulations, including 10 CFR 851. These provisions also specify compliance

with other applicable requirements (i.e., national consensus standards) that may be needed to protect JSA employees and users and contractor employees from hazards at JSA controlled premises and hazards associated with contractor activities. All requirements in the 10CFR851 Rule must be met regardless of whether JSA or the contractor/sub-tier contractor performs the actual worker protection activity.

EH&S Manual Chapters 3410 (ESH&Q Aspects of Material Acquisitions) and 3420 (ESH&Q Aspects of Procured Services and Construction) along with Facilities Management Department Master Specification 01525 (Environment, Safety and Health Requirements) provide additional information regarding safety and health requirement flow down to JSA contractors.

4.2 TJNAF Implementing Programs

10 CFR 851.11(a)(3)(i)&(ii)

Implementation of the process for requirements flow down described in Section 4.1 works to assure JSA compliance with requirements described in 10 CFR 851 Subpart C. Based on this process, a 10 CFR 851 Implementation Matrix was developed and is Attachment 3 in this document. This attachment provides an item-by-item listing of Rule requirements and subsequent identification of the TJNAF implementing documents. The three principal JSA ES&H program documents that address implementation of the 10 CFR 851 Subpart C requirements and help ensure these requirements are integrated with other JSA worker protection activities and the JSA ISMS are:

1. Jefferson Laboratory ES&H Policy Statement – ES&H performance at TJNAF is based upon the core functions and guiding principles of the JSA Integrated Safety Management System (ISMS) Program Description. Further, the JSA ES&H Policy Statement establishes our commitment to meet the requirements of 10 CFR 851.
2. Integrated Safety Management System (ISMS) Program Description –This ISMS description provides a road map to requirements which reside in JSA's Management and Operating (M&O) Contract, EH&S Manual, program documents and manuals, and other related documentation.
3. Jefferson Laboratory EH&S Manual – The Manual describes and communicates the JSA ESH&Q Program requirements: why, what, how, and who. It identifies the boundaries of the program, describes how requirements flow down to JSA organizations and contractors, and defines ESH&Q roles and responsibilities. The requirements described in the EH&S Manual adhere to the approach described in the Integrated Safety Management System (ISMS) Program Description. The ES&H Manual contains distinct functional areas within the structure of JSA's ISMS.

4.3 JSA Implementing Processes

10 CFR 851.11(a)(3)(i)&(ii)

JSA implements the worker safety and health protection requirements of 10 CFR 851 Subpart C through a collection of interrelated activities and tasks, or processes. The ISMS description and the EH&S Manual describe and define the basic processes

required to plan and perform work safely. The specific implementing processes and documents employed to address the individual requirements of 10 CFR 851 are discussed in the sections below and identified in the Implementation Matrix presented in Attachment 3.

4.4 Program Requirements – 10 CFR 851 Subpart B

4.4.1 Place of Employment Free of Hazards

10 CFR 851.10(a) and 10(a)(1)

The 10 CFR 851 Rule requires JSA, including our contractors and subcontractors, to provide a place of employment that is free from recognized hazards that are causing or have the potential to cause death or serious physical harm to workers. This provision of the Rule was carried over from DOE Order 440.1A and closely parallels the Occupational Safety and Health Administration (OSHA) General Duty Clause established in Section 5(a)(1) of the Occupational Safety and Health Act of 1970. Of note, DOE O 440.1A was not incorporated as a requirement in the previous SURA-TSJO contract; the order is incorporated in the new contract effective June 2006. This provision of 10 CFR 851 is addressed through the establishment of the ES&H Policy and Manual that govern all work at TJNAF. The JSA ES&H Policy is to protect and preserve the environment, and to ensure the safety and health of JSA employees, contractors, visitors, and the public, while executing our DOE mission. Underpinning its mission, JSA has adopted three ES&H principles in the Laboratory Policy on Safety, Health, and Environmental Protection of EH&S Manual Chapter 1100:

1. All employees, users, and contractors take responsibility and are accountable for improving the work environment and ES&H performance at TJNAF.
2. An unwavering belief that job-related injuries, illnesses, and environmental incidents are avoidable and unacceptable.
3. All employees, users, and contractors are accountable for minimizing the impact to the environment in the community.

4.4.2 Work Performed in Accordance with Requirements

10 CFR 851.10(a)(2)(i)&(ii)

Work at TJNAF is to be performed in accordance with the applicable requirements of 10 CFR 851 Subpart C, any compliance order issued by the Secretary pursuant to 10CFR851.4, and with this JSA WSHPP.

10 CFR 851.10(b)(1) & (2)

This WSHPP document describes existing JSA policies and requirements that implement work activity requirements specified in 10 CFR 851 Subpart C or any compliance order that applies to work activity hazards identified during work activity planning. These policies include, but are not limited to, the following:

- EH&S Manual
- Procurement Department Operations Manual
- ISMS Program Description
- Quality Assurance Program Plan

4.5 Development and Approval of the WSHPP

4.5.1 Preparation and Submittal

10 CFR 851.11.(a)(1)

In accordance with 10 CFR 851.11(a)(1), JSA provides this WSHPP document as the description of the single WSHPP for work activities performed at the Newport News site. JSA does not perform any work activities outside the facilities of the Newport News site.

JSA coordinates with our contractors and subcontractors to ensure that there are clear roles, responsibilities, and procedures to ensure the safety and health of employees. In general, JSA contractors and subcontractors are required to follow the JSA safety and health requirements and, when deemed necessary, provide a safety plan that is reviewed and approved by JSA. EH&S Manual Chapter 3420 (*ESH&Q Aspects of Procured Services and Construction*) and Facilities Management Department Master Specification 01525 (*Safety and Health Requirements*) address the process and details for this coordination.

When JSA hosts users and visitors at TJNAF from other covered workplaces and non-covered workplaces, the JSA hosts are responsible for ensuring that users and visitors performing work in JSA covered workplaces meet all of the requirements of the space to be visited and the activities to be performed, including training on ESH&Q requirements. Although TJNAF users are not covered by this WSHPP, they receive the same training as JSA employees and contractors and are addressed in EH&S Manual Chapter 3220 (*Communication of Hazards to Employees and Users*). Similarly, although not covered by this WSHPP, visitors' ES&H responsibilities are discussed in EH&S Manual Chapter 3230 (*Communication of Hazards to Visitors*).

4.5.2 DOE Thomas Jefferson Site Office Evaluation and Approval

10 CFR 851.11(b)(1) through (3)

In accordance with 10 CFR 851, JSA will submit this WSHPP description document to the Thomas Jefferson Site Office (TJSO) for review and written approval. JSA will send or ensure TJSO has sent a copy of the approved WSHPP to the appropriate DOE Headquarters office. The WSHPP description document will be available on the TJNAF web site and accessible to all JSA staff and TJNAF users. A copy will be furnished to any worker upon request. The EH&S Manual will reference this document where appropriate in each applicable Chapter, thus allowing ready access to this information by all employees, users, and contractors.

4.5.3 WSHPP Updates

10 CFR 851.11(c)(1) through (3)

JSA will submit WSHPP updates to TJSO for approval when a significant change or addition to the program is made. A significant change or addition exists when a hazard is associated with a change in the workplace or processes, a newly recognized hazard is not effectively controlled by measures in the approved WSHPP, or a change in the M&O Contractor occurs.

An updated WSHPP document, or letter stating that no WSHPP update was necessary, will be submitted annually to TJSO. The updates will incorporate any changes to the TJNAF WSHPP, or (following inclusion into the TJNAF WSHPP) any new workplace safety and health standards directed by DOE, consistent with the requirements of the Rule and DEAR 970.5204-2, "Laws, Regulations, and DOE Directives". JSA will identify the need for significant changes or additions to the WSHPP through the requirements flowdown process in accordance with EH&S Manual Chapter 2410. The incorporation of new or changed requirements will be managed in accordance with EH&S Manual Chapter 2410.

4.5.4 Labor Organizations and Members of the Workforces

851.11(d)(1) & (2)

JSA employees and TJNAF users are not represented by a Labor Organization

4.6 (Not used)

4.7 Specific Program Requirements

10 CFR 851 Subpart C

4.7.1 Management and Worker Rights and Responsibilities

The approach to implementing ES&H at TJNAF is translated through the assignment of roles and responsibilities based on the following axioms:

- All staff, users, and contractors are accountable for knowing and meeting their ES&H responsibilities and for working safely
- ES&H is an integral part of how JSA does business
- ES&H implementation is based on specifically defined requirements and guidance and incorporates a graded approach that balances corporate and organizational priorities

The roles and responsibilities for all employees, users, and contractors are presented in the EH&S Manual Chapters 1100 and 2210. Specific responsibilities are defined in other chapters of the Manual.

4.7.1.1 Policy, Goals, and Objectives

10 CFR 851.20(a)(1)

JSA has established written WSHPP policies, objectives, and goals. The JSA ES&H Policy is provided in EH&S Manual Chapter 1100.

The establishment of ES&H policies, objectives, and goals are addressed in the following WSHPP-related documents:

- Integrated Safety Management System Description
- TJNAF Institutional Plan (Strategic Planning Process)
- Procurement Acquisition Policy Manual
- EH&S Manual
- Quality Assurance Plan

EH&S Manual Chapter 2210, *ESH&Q Responsibilities of Individuals*, describes the JSA leadership roles and responsibilities for safety and health programs. Worker safety and health issues are addressed beginning in the strategic planning process all the way through to routine activity level tasks. JSA's strategic planning process results in a Ten-Year Site Plan (TYSP) that covers a 10-year planning horizon for real property asset management. JSA's M&O contract with TJSO requires the development of a five-year Business Plan for the overall direction of TJNAF which is updated annually in accordance with Business Planning instructions issued by the DOE Contracting Officer. The maintenance management program for these assets includes a 5-year maintenance and repair requirements (sustainment) plan that addresses condition assessment of the real property assets, prioritization and tracking of maintenance expenditures, funding, and the 5-year recapitalization requirements to replace or modernize existing facilities. At the individual worker level, the WSHPP objectives and goals are implemented through the EH&S Manual, Facilities Department Master Specification 01525 for construction, and procurement contracts used to implement the maintenance management program and conduct activity level work .

The following documents contain the TJNAF WSHPP commitments and performance objectives; as well as operational objectives, goals, and performance measures.

ES&H Policy Statement

- EH&S Manual
- Integrated Safety Management System Program Description
- Contractor Performance and Measurement Plan (PEMP) – SURA Contract Part III, Section J, Appendix B (Annual)

The WSHPP commitments and performance objectives described and documented in the above documents address TJNAF WSHPP objectives, goals, and measures. Section 4.7.3.8 contains additional information regarding performance reviews.

Monitoring results for WSHPP measures are located on the TJNAF homepage and the ESH&Q web pages. Results are described in annual performance measure reports, progress reports, and safety performance metric links.

4.7.1.2 Qualified Worker Safety and Health Protection Program Staff

10 CFR 851.20(a)(2)

Qualified Safety and Health program staff direct and manage the JSA WSHPP. Responsibilities for WSHPP managers are discussed in EH&S Manual Chapter 2210, ESH&Q Responsibilities for Individuals.

The Associate Director and Deputy for ESH&Q are certified safety professionals. The Industrial Hygiene Program Lead is a Certified Industrial Hygienist. Several other key managers are certified professionals in their respective disciplines.

4.7.1.3 Accountability

10 CFR 851.20(a)(3) & (b)

JSA assigns worker Safety and Health Protection Program related responsibilities, evaluates personnel performance, and holds personnel accountable for worker protection performance. EH&S Manual Chapter 2210 (ESH&Q Responsibilities of Individuals) describes personnel roles and responsibilities relative to compliance with safety and health requirements including those described in 10 CFR 851 Subpart C and this WSHPP document. JSA's policy for personnel accountability is contained in the Administrative Manual Section 208. The guidelines for completing performance appraisals require supervisors to assess the employee's ES&H performance in context of his/her overall job responsibilities and observance of standards of safety, health, and environmental protection in all activities and operations. The process for addressing less than adequate performance is also described in the Administrative Manual Section 208.

4.7.1.4 Employee Involvement

10 CFR 851.20(a)(4)

The following documents describe how JSA provides for involvement by employees in the development of its WSHPP in regard to related goals, objectives and performance measures, and in the identification and control of workplace hazards. Additionally, JSA employees are also involved in the development and implementation of documentation and policies addressing worker safety and health and the performance of mission work.

1. EH&S Manual
 - a. Chapter 2310, ESH&Q Concern Resolution
 - b. Chapter 3110, ESH&Q Assessment of New Facility Plans
 - c. Chapter 3120, CEBAF Experiment Review Process
 - d. Chapter 3130, FEL Experiment Review Process
 - e. Chapter 3210, Hazard Identification and Characterization
 - f. Chapter 3220, Communication of Hazards to Employees

- g. Chapter 3310, Standard Operating Procedures and Operational Safety Procedures
 - h. Chapter 3320, Temporary Work Permits
 - i. Chapter 5200, Incident/Injury Investigation
 - j. Chapter 5300, Occurrence Reporting
2. Charters for the following groups or committees:
- a. Director's Safety Council
 - b. Worker Safety Committee
 - c. Electrical Safety Committee
 - d. Environmental Management System Committee
 - e. ESH&Q Training Committee
 - f. Material Handling Committee

In addition to the above methods for worker WSHPP involvement, the ESH&Q Division assigns worker health and safety professionals to the individual line divisions for matrixed support. These assignments, and means for accessing these professionals, are communicated to the divisions through the JSA web site.

4.7.1.5 Access to Information

10 CFR 851.20(a)(5)

JSA provides employees, users, and contractors access to worker safety and health related information. The WSHPP description document will be available on the TJNAF web site and accessible to all JSA employees and users. A copy will be furnished to any worker upon request. All personnel are required to complete the ES&H Orientation course available on the JSA website; the course is described in EH&S Manual Chapter 4100. Contractors received similar training tailored to their work on site. Other specific safety programs, such as electrical safety, laser safety, lock/tag/try, and Oxygen Deficiency Hazard training are available for those personnel whose work requires such training. ESH&Q committees meeting minutes are available on the ESH&Q web page. Summaries of Notable Events are published on the ESH&Q QA& CI web page. The lab wide Insight web page contains ESH&Q information and notable event links.

4.7.1.6 Report Events and Hazards

10 CFR 851.20(a)(6)

The following documents provide the JSA procedures by which employees, users, and contractors report, without reprisal, job-related fatalities, injuries, illnesses, incidents, previously unrecognized safety and health hazards, workplace safety and health concerns, recommendations about appropriate methods for controlling previously unrecognized safety and health hazards, and workplace conditions that are nonconformant with JSA requirements.

- Administrative Manual, Section 210, *Employee Issues and Grievances*
- EH&S Manual Chapter 2210, ESH&Q Responsibilities of Individuals
- EH&S Manual Chapter 2310, *ESH&Q Concern Resolution*
- EH&S Manual Chapter 3330, *Stop Work Orders*
- EH&S Manual Chapter 5200, Injury/Illness Investigation
- EH&S Manual Chapter 5300, *Occurrence Reporting*

In addition, employees, users, and contractors may report concerns to safety wardens, supervisors, or members of the Worker Safety Committee. Corrective actions are entered and tracked in the Corrective Action Tracking System (CATS). CATS information as well as summaries of investigation and notable event reports are available on the ES&H QA & CI web page.

4.7.1.7 Prompt Response to Reports

10 CFR 851.20(a)(7)

The following documents provide the procedures that help to ensure prompt JSA management response to safety and health related reports and recommendations made by employees, users, and contractors as described in Section 4.7.1.6 above.

- Administrative Manual, Section 210, *Employee Issues and Grievances*
- EH&S Manual Chapter 5200, Injury/Illness Investigation
- EH&S Manual Chapter 5300, *Occurrence Reporting*
- Management Assessment Procedure
- Independent Assessment Procedure
- Corrective Action Tracking System Procedure

Records of actions taken and, where appropriate, causal analysis, for investigation and notable event reports as well as completed assessment reports are available on the ESH&Q web pages.

4.7.1.8 Regular Communications

10 CFR 851.20(a)(8)

The following documents provide description of JSA management responsibility for regular communication with employees, users, and visitors about workplace safety and health matters.

- EH&S Manual Chapter 2210, ESH&Q Responsibilities of Individuals
- EH&S Manual Chapter 3220, Communication of Hazards to Employees and Users
- EH&S Manual Chapter 3230, Communication of Hazards to Visitors
- TJNAF Lessons Learned Program

Communication is a key component of the Charters of the Director's Safety Council and Worker Safety Committees.

Regular communications of workplace safety and health matters is further realized through Department Safety Warden programs, Standing Safety Committees (e.g., safety bulletins issued by the Electrical Safety Committee, Material Handling Safety Committee, etc.), Director's Council, the TJNAF ESH&Q Website, and other ES&H related publications, such as the monthly ISM posters.

4.7.1.9 Stop Work Authority

10 CFR 851.20(a)(9)

The following documents describe the JSA procedures that permit and in fact charge employees, users, and contractors to stop work or decline to perform an assigned task because of a reasonable belief that the task poses an imminent risk of death, serious physical harm, or other serious hazard to workers, in circumstances where the worker believes there is insufficient time to utilize normal hazard reporting and abatement procedures.

- EH&S Manual Chapter 2210, ESH&Q Responsibilities of Individuals
- EH&S Manual Chapter 3330, Stop Work Orders

4.7.1.10 Inform Workers of Rights

10 CFR 851.20(a)(10)

The following documents describe the JSA policies and procedures by which employees, users, and subcontractors are informed of their rights and responsibilities.

- EH&S Manual Chapter 1100, Laboratory Policy on Safety, Health, and Environmental Protection
- EH&S Manual Chapter 2210, ESH&Q Responsibilities of Individuals
- EH&S Manual Chapter 3220, Communication of Hazards to Employees and Users
- EH&S Manual Chapter 5200, Injury/Illness Investigation

Additionally, ES&H Orientation Training described in EH&S Manual Chapter 4100 (*Orientation for New Employees, Users, and Visitors*) contains information regarding worker rights. The DOE safety and health poster informing workers of their relevant rights and responsibilities is displayed at workplace locations throughout TJNAF where it is accessible to all workers. Section 4.7.2.2 contains additional information.

4.7.2 Worker Rights and Responsibilities

10 CFR 851.20(b)

4.7.2.1 Participate on Official Time

10 CFR 851.20(b)(1)

EH&S Manual Chapter 2210 (*ESH&Q Responsibilities for Individuals*) contains the requirements for management to allow employees, users, and contractors the right to

participate in TJNAF worker safety and health protection activities described in the 10 CFR 851 on official time.

4.7.2.2 Information Access

10 CFR 851.20(b)(2)(i) through (vi)

Employees, users, and contractors have the right to access the following information sources:

- DOE safety and health publications
- TJNAF WSHPP document
- Safety and health standards, controls, and procedures applicable to safety and health hazards to which employees, users, and subcontractors may be exposed and are associated with work activities performed at JSA-controlled premises
- Safety and health poster that informs the worker of relevant rights and responsibilities
- Limited information on any recordkeeping log (OSHA Form 300)
- DOE Form 5484.3 (equivalent to OSHA Form 301) that contains staff, user, or subcontractor name as the injured or ill worker

This document and the information contained herein are available through the ESH&Q web pages and TJNAF web pages. This document is referenced in the EH&S Manual Chapters 1100 and 2210. These EH&S Manual chapters contain requirements and standards, and hazard exposure control information applicable to the safety and health hazards to which workers may be exposed. Task hazard analysis sheets and associated work control documents prescribing work methods for preventing or controlling worker exposure to identified hazards relative to the specific work place or activity are maintained in the office of the department responsible for that specific workplace or work activity. EH&S Manual Chapter 3210 (*Hazard Identification and Characterization*) and Chapter 3310 (*Standard Operating Procedures and Operational Safety Procedures*) discuss use of task hazard analyses. Employees of that department have direct access to these information sources. Access to this information is addressed in New Employee Orientation Training and Annual ES&H Training received by all employees, users, and subcontractors. Completed work control documents are retained on file by the Office of Quality Assurance and Continuous Improvement.

The TJNAF ESH&Q web page and the EH&S Manual Chapter 2210 (*ESH&Q Responsibilities of Individuals*) provide access to the DOE safety and health poster informing workers of their relevant rights and responsibilities. In addition, the poster is displayed at workplace locations throughout TJNAF where it is accessible to all workers.

4.7.2.3 Notification of Monitoring Results

10 CFR 851.20(b)(3)

The requirement for providing individual employees, users, and contractors written results of monitoring performed to quantify exposures to hazardous chemical agents and

physical hazards, regardless of level, is contained in EH&S Manual Chapter 2210 (*ESH&Q Responsibilities of Individuals*). Detailed procedures are described in the Industrial Hygiene Group Administrative Procedures. These procedures address employee, user, and contractor notification of all such monitoring results including required notification in accordance with requirements listed Attachment 2 Applicable Workplace Safety and Health Requirements (e.g., 10 CFR 850, and 29 CFR 1910.95 and Subpart Z). The process for worker access to medical records that include exposure monitoring results is described in the Administrative Manual, Section 103.02, *Medical Services Program*. Exposure monitoring results for uncontrolled over exposures are reported using the occurrence reporting system described in EH&S Manual Chapter 5300 (*Occurrence Reporting*). Worker access to exposure information may also be initiated by the reporting of a safety concern as provided for in EH&S Manual Chapter 2310 (*ESH&Q Concern Resolution*).

4.7.2.4 Observe Monitoring and Accompany Inspections

10 CFR 851.20(b)(4) and (5)

EH&S Manual Chapter 2210 (*ESH&Q Responsibilities of Individuals*) includes the right to observe worker exposure monitoring or measuring, and accompany inspections. The inspections referred to in this context include general work area safety and health related performed by line management, safety wardens, or WSHPP program staff, and inspections performed by the Director of the DOE Office of Price Anderson Enforcement (OE) or a DOE enforcement officer under the supervision of the OE Director while investigating the nature and extent of 10 CFR 851 compliance at TJNAF. For the latter, a representative authorized by the employees may accompany the DOE representative.

4.7.2.5 Results of Inspections and Investigations

10 CFR 851.20(b)(6)

The processes by which results of inspections and accident investigations are communicated throughout TJNAF include the Occurrence Reporting system, Lessons Learned Program, and ES&H Performance Metrics and Status reports process. These inspection and accident investigation results communication processes are managed by the ESH&Q Quality Assurance and Continuous Improvement Department and are made available on the Quality Assurance & Continuous Improvement web page on the ESH&Q web site.

Other inspection result communication mechanisms include those provided by the Corrective Action Tracking System, the associated Management and Independent Assessment data bases, and DOE Enforcement Program process provided in EH&S Manual Chapter 5300, Appendix 5300-T4. The latter describes how noncompliance with DOE-prescribed worker protection requirements are recorded and communicated, and submitted into the DOE Non-compliance Tracking System (NTS). Non-compliances below the NTS reporting threshold are documented and tracked to closure using the Corrective Action Tracking System.

As specified in 10CFR851.42(e), if JSA receives a Preliminary Notice of Violation (PNOV) from the DOE Office of Enforcement, a copy of the PNOV once final, must be prominently posted at or near the location where the violation occurred until the violation is corrected.

4.7.2.6 Express Concerns

10 CFR 851.20(b)(7)

JSA employees who believe they are being denied the rights or believe they are subject to reprisals for attempting to exercise the rights provided by 10 CFR 851 and described in Sections 4.7.2.1 through 4.7.2.8 above may file an employee concern following the processes described in EH&S Manual Chapter 2310 (*ESH&Q Concern Resolution*). This EH&S Manual chapter also provides steps for employees to use processes in the DOE O 442.1A, "*Department of Energy Employee Concerns Program*". The DOE Worker Protection Poster that highlights this right is prominently posted throughout TJNAF workplaces. Employee rights and related reporting processes are addressed during the ESH&Q Orientation Training discussed in EH&S Manual Chapter 4100 (*Orientation Training for New Employees, Users, and Visitors*).

The following documents contain the requirements for JSA management to allow employees, users, and contractors the right to express concerns related to worker safety and health at TJNAF premises, and the procedures by which they express such concerns.

- Administrative Manual, Section 210, Employee Issues and Grievances
- EH&S Manual Chapter 2210, ESH&Q Responsibilities of Individuals
- EH&S Manual Chapter 2310, ESH&Q Concerns and Resolution
- EH&S Manual Chapter 5200, Injury/Illness Investigation

4.7.2.7 Decline to Perform in Imminent Risk

10 CFR 851.20(b)(8)

The following documents address the requirement for JSA management to inform and allow employees, users, and contractors the right to decline to perform an assigned task at JSA-controlled premises because of a reasonable belief that, under the circumstances, the task poses an imminent risk of death or serious physical harm to the worker coupled with a reasonable belief that there is insufficient time to seek effective redress through normal hazard reporting and abatement procedures.

- EH&S Manual Chapter 2210, ESH&Q Responsibilities of Individuals
- EH&S Manual Chapter 3330, Stop-Work Orders
- EH&S Manual Chapter 4100, Orientation for New Employees, Users, and Visitors

4.7.2.8 Stop Work

10 CFR 851.20(b)(9)

The following documents contain the requirements for JSA management to allow employees, users, and contractors the right to stop work or decline to perform an assigned task at JSA-controlled premises when they have a reasonable belief that the work or task would result in worker exposures to imminently dangerous or other serious conditions, provided the stop work authority is exercised in a justifiable and responsible manner.

- EH&S Manual Chapter 2210, ESH&Q Responsibilities for Individuals
- EH&S Manual Chapter 3330, Stop-Work Orders

4.7.3 Hazard Identification and Assessment

10 CFR 851.21

4.7.3.1 Identify and Assess Risks

10 CFR 851.21(a)

The following documents describe the JSA procedures for identification and assessment of existing and potential workplace hazards and risk associated worker injury and illness.
Final Safety Assessment Document Operating and Safety Envelopes
Integrated Safety Management System Program Description

- EH&S Manual Chapter 2220, Landlord and Tenant ESH&Q Responsibilities
- EH&S Manual Chapter 3110, ESH&Q Assessments of New Facility Plans
- EH&S Manual Chapter 3120, CEBAF Experiment Review Procedure
- EH&S Manual Chapter 3130, The FEL Experiment Review Process
- EH&S Manual Chapter 3210, Hazard Identification and Characterization
- EH&S Manual Chapter 3310, Standard Operating Procedures and Operational Safety Procedures
- EH&S Manual Chapter 6xxx series Industrial Hygiene Procedures
- Management Assessment Procedure
- Independent Assessment Procedure

In addition to the records generated by the above processes and procedures, the Industrial Hygiene Group has developed and maintains detailed occupational exposure assessment records for workplace hazard monitoring. Also, in conjunction with the new contract due diligence process associated with the award of the TJNAF contract to JSA, a team made up from SURA and TJSO conducted a hazard surveillance of the site. Each facility/area/room was walked through by one or more members of the team. When possible the person responsible for the building, room, or area was included in the walkthrough. The hazard surveillance did not include access to overheads, sumps, or otherwise hazardous areas (e.g. confined spaces). Individual checklist sheets were then completed for every area, including names of participants, and the identified hazards

were risk ranked using the existing JLab significance level as guidance for pre- and post-mitigation. The post-mitigation risk ranking was based on the actual mitigations found to be in place at the time of the surveillance (engineered controls, administrative controls, etc.). Finally, this information was summarized in a written report and the recommended actions entered in CATS for tracking.

4.7.3.2 Assess Worker Exposures

10 CFR 851.21(a)(1)

The following documents describe the JSA procedures for assessing employee exposure to chemical, physical, biological, and safety workplace hazards through appropriate work place monitoring. The assessment of worker exposure is facilitated through the EH&S Manual which contains chapters on workplace hazards at TJNAF including Industrial Safety (Chapter 6xxx series), Fire Protection (Chapter 69xx series), Industrial Hygiene (Chapter 66xx series), and Radiation (Chapter 63xx and 64xx series). Guidance on communication of hazards is contained EH&S Manual Chapters 3220/30. Two of the more significant hazards widely present at TJNAF involve chemicals and cryogenics. EH&S Manual Chapter 6610 (*Chemical Hygiene*) addresses hazardous chemicals in laboratories. EH&S Manual Chapter 6500 series addresses Cryogenics and associated Oxygen Deficiency Hazards. Occupational exposure assessment procedures are further specified in the Industrial Hygiene Group's Administrative and Operating Procedures. This Group also maintains completed survey records.

4.7.3.3 Document Hazard Assessment

10 CFR 851.21(a)(2)

TJNAF facility hazard assessment is documented in the Final Safety Assessment Document, supplemented by the hazard surveillance discussed in 4.7.3.1 above. Hazard assessment for new construction or modifications to facilities are documented in accordance with EH&S Manual Chapter 3110. Hazard assessments for experiments are documented during the planning process per EH&S Manual Chapters 3120 and 3130. Hazard assessments for work performed are documented during work planning in accordance with EH&S Manual Chapters 3210 and 3310.

Exposure hazard assessments performed to quantify worker exposure to chemical and physical hazards are performed in accordance with Industrial Hygiene Group Administrative and Operating Procedures. These procedures document the process and procedural details for sampling, recording, and informing individuals of exposure hazard assessment results.

The process for documenting hazard assessments addressing worker exposure to chemical and physical hazards is described in the Industrial Hygiene Group Administrative and Operating Procedures. Effectiveness of hazard assessments is checked by management and independent assessment programs.

4.7.3.4 Record Results

10 CFR 851.21(a)(3)

The processes and procedures discussed in section 4.7.3.1 through 4.7.3.3 address exposure monitoring sample management, analysis, and analysis result documentation, by accredited analytical laboratories. The documentation program is described in Industrial Hygiene Group Administrative and Operating Procedures

4.7.3.5 Analyze Design for Potential Hazards

10 CFR 851.21(a)(4)

The process by which hazard analyses are completed for designs of new facilities and modifications to existing facilities is provided in EH&S Manual Chapter 3110 (*ESH&Q Assessments of New Facility Plans*). This approach provides the mechanisms for involving ES&H experts in hazard assessment reviews for new facility and facility re-model designs. Specific sign offs for ES&H reviews of the design are included starting at the early concept phase and continue throughout project development. Analysis of TJNAF equipment designs and modifications is addressed in the following documents:

- EH&S Manual Chapter 3120, CEBAF Experiment Review Procedure
- EH&S Manual Chapter 3130, The FEL Experiment Review Process
- EH&S Manual Chapter 3210, Hazard Identification and Characterization
- EH&S Manual Chapter 3310, Standard Operating Procedures and Operational Safety Procedures
- EH&S Manual, Rad Con Supplement, Chapter 3, Planning Radiological Work

4.7.3.6 Operation, Procedure, and Facility Evaluation

10 CFR 851.21(a)(5)

The following documents describe the JSA procedures by which evaluations of TJNAF operations, procedures, and facilities are performed to identify hazards.

The JSA Policy on Safety, Health, and Environmental Protection contained in EH&S Manual Chapter 1100 defines a five-element process for managing and performing work that applies to all activities, facilities, organizations, and employees, users, and subcontractors. The overall requirement for the evaluation of operations, procedures, and facilities is in this policy and the Integrated Safety Management System Program Description. Hazards identification and analysis procedures are described in EH&S Manual Chapter 3210 (*Hazard Identification and Characterization*) and includes hazard identification requirements for employees, users, and subcontractors responsible for day to day operations. The process for the incorporating results from the Chapter 3210 hazard identification processes into administrative controls (i.e., operating procedures) is presented in EH&S Manual Chapter 3310 (*Standard Operating Procedures and Operational Safety Procedures*). The process for performing on-going hazards identification, which may include teams of worker protection professionals and employees, users, and contractors, is described in the Management Assessment

Procedure and Independent Assessment Procedure available on the ESH&Q QA & CI web page. The Corrective Action Tracking System Procedure includes the process for documenting and tracking to closure any findings; this procedure is available on the ESH&Q QA & CI web page

EH&S Manual Chapters 3210 (*Hazard Identification and Characterization*), provide requirements guidance relative to industrial safety and industrial hygiene related hazards and direction on when ES&H specialist input is needed to support hazard assessments.

TJNAF experimental operations are planned, analyzed, reviewed and approved in detailed processes contained in EH&S Manual Chapter 3120 (*CEBAF Experiment Review Process*) and Chapter 3130 (*FEL Experiment Review Process*).

4.7.3.7 Routine Job Activity-Hazard Analysis

10 CFR 851.21(a)(6)

As discussed in EH&S Manual Chapter 3210 (*Hazard Identification and Characterization*), routine jobs also require the hazard identification and analysis process be used. EH&S Manual Chapter 3310 (*Standard Operating Procedures and Operational Safety Procedures*) addresses when a specific work document must be prepared. Routine jobs may not require detailed operating procedures as the hazards are covered by the EH&S Manual and employees, users, and subcontractors are responsible for having adequate knowledge of these basic safety requirements. Supervisors are required to ensure hazards are reviewed with the workers and worker understanding even for these routine jobs; however, formal documentation of the analysis and reviews is optional.

4.7.3.8 Safety and Health Experience Reviews

10 CFR 851.21(a)(7)

Safety and health experience is reviewed as a means for determining WSHPP objectives, goals, milestones, performance measures, and opportunities for improvement as described in Section 4.7.1.1 above and dissemination of topical lessons learned as described in Section 4.7.1.8.. The ESH&Q Division Quality Assurance and Continuous Improvement Department, which includes safety professionals, manages the processes by which safety and health experience review data is collected, analyzed, reviewed and documented. These processes and resulting reports are located on the ESH&Q Quality Assurance and Continuous Improvement Department homepage. JSA employees and users have access to the homepage. Also, selected experience items of interest (e.g., incidents, near misses) are also linked on the laboratory home page and thus available for all employees to review. Safety and health experience data sources used include injury and illness data, self assessment data, and occurrence reports. Report types generated from these data reviews include identification of most prevalent injury and illness causes; Total Recordable (TR) Case Rate, Days Away Restricted or Transferred (DART) Case Rates and other injury and illness reportable rates; self assessment focus and improvement areas; and quarterly performance analysis reports. When trending

analysis identifies a trend, topical area causal analysis teams are assembled to determine causes and corrective action plans to help reduce similar event recurrence.

Other more general safety and health experience review processes that are used by line management are provided as follows:

- EH&S Manual Chapter 5200, Injury/Illness Investigations
- EH&S Manual Chapter 5300, Occurrence Reporting
- Corrective Action Tracking System Procedure
- Lessons Learned Program

Administrative Manual Section 208 states that all managers are required to ensure that safety and health experience is included during annual performance and appraisal and review of their teams and personnel. EH&S Manual Chapter 5300 (*Occurrence Reporting*) provides the occurrence reporting processes, including the process to determine if occurrence reporting thresholds are exceeded and reporting into DOE's Non-compliance Tracking System (NTS) is necessary. Both processes are important data gathering tools relative to periodic health and safety experience reviews. EH&S Manual Chapter 5300 also discusses processes for reviewing and implementing lessons learned information from TJNAF and other DOE sites.

4.7.3.9 Interaction Between Various Workplace Hazards (i.e., Radiological Hazards)

10 CFR 851.21(a)(8)

The following documents describe the JSA procedures that ensure the interaction between workplace hazards (e.g., chemical, physical, or safety hazards) and other hazards, such as radiological hazards are considered during hazard identification and assessment or work planning activities. The Integrated Safety Management System Program Description and JSA *Laboratory Policy on Safety, Health, and Environmental Protection* (EH&S Manual Chapter 1100) present the approach to planning work that is inclusive of all workplace hazards. Hazard identification and analysis, and risk management that includes the consideration of the interaction between workplace hazards is presented in EH&S Manual Chapter 3210 (*Hazard Identification and Characterization*). Work Control Documents are required as prescribed by the EH&S Manual Chapter 3310 (*Standard Operating Procedures and Operational Safety Procedures*) and serve as means for coordinating hazard specific safety and health related controls as required by various EH&S Manual sections.

4.7.3.10 Closure Facilities Hazard Identification

10 CFR 851.21(b)

TJNAF currently has no closure facility activities.

4.7.3.11 Hazard Identification Schedule

10 CFR 851.21(c)

JSA performs hazard identification activities required by 10 CFR 851.21(a) as described in sections 4.7.3.1 through 4.7.3.7 and 4.7.3.10 above. The baseline hazard identification is documented in the Facility Safety Analysis Document (FSAD). The ISMS Program Description and QA Plan include requirements for on going review of hazard identification activity in the Independent and Management Assessment programs. The on- going program of ES&H inspections of all TJNAF facilities by ES&H professionals and safety wardens also provide hazard identification inputs.

4.7.4 Hazard Prevention and Abatement Process

10 CFR 851.22

4.7.4.1 Hazard Prevention and Abatement Process

The following documents describe the JSA hazard prevention and abatement process by which identified and potential hazards are prevented or abated in a timely manner. The hazard prevention and abatement process is a key component of work planning and execution, and implemented by JSA's Integrated Safety Management System Program Description. The Corrective Action Tracking System (CATS) process provides for categorization of hazards by significance, designation of responsible person, and establishment and tracking completion dates. The process description as well as the CATS database are available on the ESH&Q web page. The Director's Safety Council periodically monitors hazard issue closure status, timeliness, and trends.

- Process guidelines are further established in the following documents:
- EH&S Manual Chapter 3110, ESH&Q Assessments of New Facility Plans
- EH&S Manual Chapter 3120, CEBAF Experiment Review Procedure
- EH&S Manual Chapter 3130, The FEL Experiment Review Process
- EH&S Manual Chapter 3210, Hazard Identification and Characterization
- EH&S Manual Chapter 3310, Standard Operating Procedures and Operational Safety Procedures
- EH&S Manual Chapter 3320, Temporary Work Permits
- EH&S Manual Chapter 3330, Stop Work Orders
- EH&S Manual Chapter 5100, Internal Inspections
- Corrective Action Tracking System Procedure

4.7.4.2 During Design or Procedure Development

10 CFR 851.22(a)(1)

JSA incorporates controls in the appropriate facility design or procedure when hazards are identified either in the facility design or the development of procedures. The incorporation of controls into facility design is described in section 4.7.3.5 above. EH&S Manual Chapter 3210 (*Hazards Identification and Characterization*) provides

requirements for hazard identification during all phases of work which includes the work procedure development phase. Guidance on the incorporation of controls into procedures is contained in EH&S Manual Chapter 3310 (*Standard Operating Procedures and Operational Safety Procedures*).

JSA identifies and analyzes experimental operations for hazards and develops controls in detailed processes contained in EH&S Manual Chapter 3120 (CEBAF Experiment Review Process) and Chapter 3130 (FEL Experiment Review Process)

4.7.4.3 Existing Hazards

10 CFR 851.22(a)(2)(i) through (iii)

The following documents provide the process by which existing hazards identified in the workplace are prioritized for abatement and abated according to risk to worker safety and health, and by which employees, users, and contractors are protected immediately from conditions and hazards that present an imminent danger.

- Integrated Safety Management System Program Description
- Final Safety Assessment Document Operating and Safety Envelopes
- EH&S Manual Chapter 5100, Internal Inspections
- EH&S Manual Chapter 6200, Jefferson Lab's Electrical Safety Program
- EH&S Manual Chapter 6210, General Electrical Safety
- EH&S Manual Chapter 6220, AC Electrical Distribution Equipment Safety
- EH&S Manual Chapter 6230, Electronic Equipment Safety
- EH&S Manual Chapter 6240, Electrical and Electronic Equipment Construction and Maintenance Practices
- EH&S Manual Chapter 6410, Laser Safety
- EH&S Manual Chapter 6500, Cryogenic and ODH Safety

The CATS procedure and database are used to specify target closure dates and track progress of abating identified hazards. The Director's Safety Council periodically monitors hazard issue closure status, timeliness, and trends.

4.7.4.4 Hierarchy of Controls

10 CFR 851.22(b)(1) through (4)

The JSA hazard prevention and abatement processes provide for the selection of hazard controls based on the following hierarchy discussed in EH&S Manual Chapter 3210:

- Elimination, Substitution, or find a different way to perform the task
- Engineering Controls
- Administrative Controls
- Personal Protective Equipment

Guidance on the JSA processes for selection of hazard controls is found in the following:

- EH&S Manual Chapter 3210, Hazard Identification and Characterization
- EH&S Manual Chapter 3310, Standard Operating Procedures and Operational Safety Procedures

4.7.4.5 Addressing Safety and Health Hazards when Selecting and/or Purchasing Equipment, Products, and Services

10 CFR 851.22(c)

The following documents provide the JSA process by which hazards are addressed during the selection and procurement for equipment, products, and services.

- Integrated Safety Management System Program Description
- Quality Assurance Plan
- Acquisition Policy Manual
- EH&S Manual Chapter 2230, ESH&Q Responsibility for Products
- EH&S Manual Chapter 3410, ESH&Q Aspects of Material Acquisitions
- EH&S Manual Chapter 3420, ESH&Q Aspects of Procured Services and Construction

4.7.5 Safety and Health Standards

10 CFR 851.23(a)(1) through (14) and 23 (b)

Requirements management and flow down is addressed in sections 4.1 through 4.3 above. Through the Laboratory Policy on Safety, Health, and Environmental Protection statement (EH&S Manual Chapter 1100) and EH&S Manual Chapter 2410 (*Applicable Regulations and Contractual Commitments*), JSA recognizes and directs compliance with applicable federal regulations, consensus standards, and DOE Directives incorporated by reference in 10CFR851. The list of safety and health standards that apply to TJNAF is located in this document as Attachment 2. Attachment 3 shows where these standards are incorporated.

4.7.6 Functional Areas

10 CFR 851.24

JSA has made provisions to provide a structured approach for implementing the requirements for the functional areas listed in 10 CFR 851, Appendix A. Brief descriptions of the JSA requirements documentation used for implementing 10 CFR 851 Functional Areas are located in this document as Attachment 1.0.

4.7.7 Training and Information

10 CFR 851.25

The JSA training program supports the ISMS principle of ensuring that worker competence is commensurate with work assignments, responsibilities, and hazards to

which workers may be exposed. EH&S Manual Chapter 4200 provides the description of the overall JSA ES&H training program, policy and philosophy including the overall approach to worker safety and health training. This program addresses:

- Training for new workers prior to or at the time of initial assignment to a job involving exposure to a hazard
- Periodic training to ensure that workers are adequately trained and informed, and
- Additional training when safety and health information or a change in workplace conditions indicates that a new or increased hazard exists.
- Training program development and maintenance

EH&S Manual Chapter 4200 Appendix T2 presents additional specific guidance on ES&H training, including on-the-job safety related training. EH&S Manual Chapter 4200 Appendix T3 requires development and maintenance of an individual ESH&Q training plan (ITP) for all JSA positions as well as for individuals (e.g., contractors, users) who do not occupy a position at JLab. Specific WSHPP element (i.e., confined space, electrical safety, laser safety, chemical safety, hazard communication, etc.) training requirements are contained within the applicable EH&S Manual chapter. ES&H training requirements for specific work activities are identified as part of the hazard identification and characterization process described in EH&S Manual Chapter 3210. Other safety related training is provided in accordance with department specific operational needs.

EH&S Manual Chapter 4100 describes safety orientation training, including WSHPP information, provided to newly hired employees or new users prior to allowing them to perform assigned tasks. For contractors, this training may be tailored depending on the scope and duration of their work.

Safety Wardens are a key element of the JSA worker safety and health program. Specific Safety Warden training is provided in course SAF 901. JSA also maintains a Chemical Assistance Team trained in emergency response to specific hazardous chemicals used at TJNAF. The training requirements for Team members are described in EH&S Manual Chapter 3520 (*Chemical Assistance Team*).

The TJNAF WSHPP management team provides for the provision of training and information to WSHPP staff in the form of supporting travel to national and local AIHA ASSE, IEEE, conferences and workshops. Through this management support, WSHPP staff maintain professional certifications such as Certified Industrial Hygienists (CIH), Certified Safety Professional (CSP), State licensed Registered Nurse (RN), and Licensed Medical Doctors (MD).

4.7.8 Recordkeeping and Reporting

10 CFR 851.26(a) and (b)

JSA provides for establishment and maintenance of safety and health records and reports including but not limited to the following:

- Hazard inventory information, hazard assessments, exposure measurements, and controls.
- Accurate recording and reporting of work-related injuries and illnesses for employees and users consistent with DOE Manual 231.1-1A.
- Complying with recordkeeping and reporting sections of the safety health standards specified in section 4.7.5 above and DOE Manual 231.1-1A.
- Controls for preventing the concealment or destruction of records as discussed on the TJNAF Records Management Handbook.
- Investigating, analyzing for trends, and reporting accidents, injuries, and illnesses as discussed in section 4.7.3.8 above.

The procedures for maintaining records in accordance with reporting sections of the safety health standards specified in section 4.7.5 above (i.e., substance specific expanded health standards located in 29 CFR 1910 Subpart Z) are provided in the Industrial Hygiene Administrative Procedures.

The following is a list of other processes that generate records of hazard inventory and assessments.

- EH&S Manual Chapter 3210, Hazard Identification and Characterization
- EH&S Manual Chapter 3310, Standard Operating Procedures and Operational Safety Procedures
- EH&S Manual Chapter 3500 (and Appendices), Emergency Management Plan
- EH&S Manual Chapter 6410, Laser Safety

4.8 Variances

If a variance from a safety and health standard is needed, JSA may submit a written application to the appropriate Cognizant Secretarial Officer using the detailed procedures in 10 CFR 851.23. Variances from 10 CFR 851 requirements can be granted only by the Under Secretary, after considering the recommendation of the DOE Assistant Secretary for Environmental, Safety, and Health. Procedures for obtaining such variances are found in Subpart D of 10CFR851. Given valid justification, organizations and individuals can obtain a particular variance from established institutional requirements as long as compensatory measures are in place to meet requirements. The variance nomenclature, the necessary accommodations, and approval levels depend on the requirement specifics. For example, certain NFPA standards, as well as certain applicable DOE fire safety guidelines, and ANSI Z136.1-2000, *American National Standard for Safe Use of Lasers*, include provisions for the approval of "equivalencies," which would be applicable in implementation in accordance with their embedded equivalency provisions and do not require variances. De minimis violations or non-compliances are annotated and dispositioned in the Corrective Action Tracking System.

4.8.1 Authority Having Jurisdiction

TJSO will delegate Authority Having Jurisdiction (AHJ) responsibility for electrical safety upon JSA putting in place appropriate AHJ protocol. Until such time, TJSO retains the responsibility of approving NFPA electrical safety code exemptions. The transfer of full electrical safety AHJ responsibility to a JSA will be executed under correspondence between TJSO and JSA. TJSO retains AHJ responsibilities specifically related to the approval of exemptions from fire protection provisions contained within the corresponding NFPA standards. JSA will assist and support TJSO with any fire protection exemption decisions or determinations. All other AHJ responsibilities as defined within the NFPA Fire Protection Standards reside with the Laboratory to manage and execute.

ATTACHMENT 1 – FUNCTIONAL AREAS

10 CFR 851 - Appendix A

The JSA program documents that address compliance with specific functional areas contained in 10 CFR 851 Appendix A are described in the following sections.

1.1 Construction Safety

10 CFR 851-Appendix A1

The following documents describe the TJNAF Construction Safety Program and provide for compliance with the Construction Safety Requirements of 10 CFR 851 Appendix A1.

- EH&S Manual 3420, ESH&Q Aspects of Procured Services and Construction
- Facilities Management Division 1 Master Specification Section 01525, Safety and Health Requirements

The above documents describe requirements for the procurement and management of construction contracts. These requirements include:

- Completion of activity hazard analyses for each separately definable construction activity
- Provision of hazard and hazard control information to associated workers, and worker acknowledgment of being informed of the hazards and associated control measures
- Presence of a designated safety representative who is knowledgeable of the hazards and on the construction worksite, performs frequent and regular inspections to identify and correct any instances of non-compliance, and to whom workers report hazards not previously identified or evaluated.
- Preparation and use of appropriate construction permits

1.2 Fire Protection

10 CFR 851.21 Appendix A2

The following documents describe the TJNAF Fire Protection Program and provide for compliance with the Fire Protection requirements of 10 CFR 851 Appendix A2.

- EH&S Manual Chapter 6910, Fire Protection Program
- EH&S Manual Chapter 6920, Safe Egress
- EH&S Manual Chapter 6930, Fire Protection Systems
- EH&S Manual Chapter 6950, Fire Safety Construction Requirements

JSA has implemented a comprehensive fire safety and emergency response program to protect employees, users, and subcontractors. This program is described by the documents above which address appropriate facility and site-wide fire protection, fire alarm notification, egress features, and access to a fully staffed, trained, and equipped

emergency response organization. The Fire Protection Program includes necessary fire protection criteria and procedures, analysis, hardware and systems, apparatus and equipment, personnel, and meets applicable building codes.

The TJNAF Fire Protection Program described by the above documents applies to activities performed at all TJNAF facilities. When working at non-JSA-controlled premises, the policies and procedures of the host site govern the way fire protection requirements are implemented.

1.3 Explosives Safety

10 CFR 851.21 Appendix A3

JSA does not conduct operations involving explosives at TJNAF and therefore this section is not applicable.

1.4 Pressure Safety

10 CFR 851.21 Appendix A4

The following documents describe the TJNAF Pressure Safety Program and provide for compliance with the Pressure Safety Requirements of 10 CFR 851 Appendix A4.

- EH&S Manual Chapter 6122, Welding, Brazing, Cutting, and Grinding Safety
- EH&S Manual Chapter 6151, Pressure and Vacuum Vessels
- EH&S Manual Chapter 6500, Cryogenics and ODH Safety
- Pressure Safety Program Manual (in preparation)

EH&S Manual Chapter 6151 contains accurate and concise information needed to satisfy the requirements of 10CFR851 for pressure vessels.

1.5 Firearms Safety

10 CFR 851.21 Appendix A5

TJNAF operation does not involve the use of firearms and therefore this section does not apply. The Jefferson Laboratory Site Security Plan documents the prohibition against firearms at TJNAF.

1.6 Industrial Hygiene

10 CFR 851.21 Appendix A6

JSA has implemented a comprehensive industrial hygiene program that includes the following functions and activities:

- Professionally and technically qualified industrial hygienists to manage and implement the program.
- Exposure assessments and periodic resurveys.
- Coordination with personnel responsible for design and planning, including work planning.
- Involvement with occupational medicine programs in accordance with expanded health standards.
- Policies and procedures for the mitigation of the risk from identified and potential occupational carcinogens.
- Use of NIOSH approved respirators, or DOE approved respirators for use with certain supplied air suits if applicable.

Descriptions of the JSA Industrial Hygiene (IH) Program elements are provided in the following documents:

- EH&S Manual Chapter 6610, Chemical Hygiene
- EH&S Manual Chapter 6620, Personal Protective Equipment
- EH&S Manual Chapter 6630, Respiratory Protection
- EH&S Manual Chapter 6640, Hearing Conservation
- EH&S Manual Chapter 6670, Thermal Stress
- EH&S Manual Chapter 6680, Lead Handling
- EH&S Manual Chapter 6681, Asbestos Management
- EH&S Manual Chapter 6682, Beryllium Handling and Exposure

Documentation containing the details regarding initial or baseline surveys, exposure assessment, and periodic re-survey aspects of the IH program are contained in the Industrial Hygiene Group Administrative and Operating Procedures.

EH&S Manual Chapter 3110 (*ESH&Q Assessments of New Facility Plans*) provides the methods by which WSHPP staff (Industrial Hygienists and Safety Engineers) perform coordinated hazard identification and control reviews on designs for new facilities (buildings and test facilities), and facility re-model/modifications.

Policies and procedures for the mitigation of the risk from identified and potential occupational carcinogens are located in the following IH program documents:

- EH&S Manual Chapter 6610, Chemical Hygiene
- EH&S Manual Chapter 6680, Lead Handling
- EH&S Manual Chapter 6681, Asbestos Management

The IH Program processes by which National Institute for Occupational Safety and Health (NIOSH) approved respiratory protection equipment is selected, used, maintained, and by which users of such equipment are trained is described in EH&S Manual Chapter 6630 (*Respiratory Protection*).

1.7 Biological Safety

10 CFR 851.21 Appendix A7

JSA does not receive, use, handle or transfer biological etiologic agents as defined in DOE N 450.7. Therefore this section of 10CFR851 is not applicable.

1.8 Occupational Medicine

10 CFR 851.21 Appendix A8

JSA has established an Occupational Medicine Program to comprehensively protect and promote the physical and mental health of employees, users, contractors, and visitors to our facilities. Further, the Occupational Medicine Program works toward the following three objectives:

1. Assure compliance with 10 CFR 851 "Worker Safety and Health Rule."
2. Assure compliance with applicable laws and regulations as defined in specific JSA occupational medicine component programs (see documentation List below).
3. Support and complement other Environment, Safety, and Health (ES&H) and Security Programs.

The Occupational Medicine Program is under the direction of the TJNAF Occupational Health Physician. The TJNAF Occupational Health Physician is a licensed medical physician and supporting medical personnel are licensed as required by state or federal law. The Occupational Medicine Department is under the ESH&Q Division.

The following implementing documents provide for compliance with the Occupational Medicine Requirements of 10 CFR 851 Appendix A8.

1. EH&S Manual Chapter 6810, *Medical Emergencies*
2. EH&S Manual Chapter 6820, *Medical Monitoring*
3. EH&S Manual Chapter 6830, *Medical Management of Occupational Injuries and Illnesses*
4. EH&S Manual Chapter 6840, *Bloodborne Pathogens Protection*
5. EH&S Manual Chapter 6850, *Regulated Medical Waste Management*
6. Administrative Manual Section 208.05, *Workplace Substance Abuse Program*
7. Fitness for Duty Program
8. Administrative Manual Section 205.05, *Disability and Workers' Compensation Programs*
9. Administrative Manual Section 103.02, *Medical Services Program*
10. Occupational Medicine Program
11. TJNAF Records Management Manual

1.9 Motor Vehicle Safety

10 CFR 851.21 Appendix A9

The following documents describe the TJNAF Motor Vehicle Safety Program and provide for compliance with the Motor Vehicle Safety Requirements of 10 CFR 851 Appendix A9.

- EH&S Manual Chapter 6145, Forklifts
- EH&S Manual Chapter 6146, Tunnel Vehicles
- EH&S Manual Chapter 6170, Vehicles and On Site Transportation
- Administrative Manual, Section 301

Through these documents TJNAF has implemented a motor vehicle safety program that protects the safety and health of all motor vehicle operators and vehicle passengers in Government owned or leased motor vehicles and powered industrial equipment (i.e., for trucks tractors platform lift trucks and other similar specialized equipment powered by an electrical motor or an internal combustion engine) and pedestrians. This motor vehicle program is tailored to motor vehicle operations and activities performed on JSA-controlled premises. This program addresses minimum licensing requirements, use of seat belts and other safety devices, training for specialty vehicle operators, requirements for motor vehicle maintenance and inspection, uniform traffic and pedestrian control devices and road signs, speed limits and other traffic rules, awareness campaigns and incentive programs, and enforcement provisions.

1.10 Electrical Safety

10 CFR 851.21 Appendix A10

The following documents describe the comprehensive TJNAF Electrical Safety Program and provide for compliance with the Electrical Safety Requirements of 10 CFR 851.23 and Appendix A10 (i.e., NFPA 70 and 70E, 29 CFR 1910 Subpart S, 29 CFR 1926 Subpart K).

- EH&S Manual Chapter 6200, Jefferson Lab's Electrical Safety Program
- EH&S Manual Chapter 6210, General Electrical Safety
- EH&S Manual Chapter 6220, AC Electrical Distribution Equipment Safety
- EH&S Manual Chapter 6230, Electronic Equipment Safety
- EH&S Manual Chapter 6240, Electrical and Electronic Equipment Construction and Maintenance Practices

1.11 Nanotechnology Safety

10 CFR 851.21 Appendix A11

Reserved

1.12 Workplace Violence Prevention

10 CFR 851.21 Appendix A12

Reserved

ATTACHMENT 2 – APPLICABLE WORKPLACE SAFETY AND HEALTH REQUIREMENTS IN 10 CFR 851.23 & 10 CFR 851.27

1. Title 10 Code for Federal Regulations (CFR) 850, “Chronic Beryllium Disease Prevention Program”.
2. Title 29 CFR, Parts 1904.4 through 1904.11, 1904.29 through 1904.33; 1904.44, and 1904.46, “Recording and Reporting Occupational Injuries and Illnesses.”
3. Title 29 CFR, Part 1910, “Occupational Safety and Health Standards,” excluding 29 CFR 1910.1096, “Ionizing Radiation.”
4. Title 29 CFR, Part 1926, “Safety and Health Regulations for Construction.”
5. American Conference of Governmental Industrial Hygienists (ACGIH), “Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices,” (2005), when the ACGIH Threshold Limit Values (TLVs) are lower (more protective) than Permissible Exposure Limits (PELs) published in 29 CFR 1910.1000 “Air contaminants.” When ACGIH TLVs are used and exposure limits TJNAF will comply with the provisions of any applicable expanded health standard found in the 31 chemical specific sections of 29 CFR 1910 Subpart Z, “Toxic and Hazardous Substances.”
6. American National Standards Institute (ANSI) Z88.2, “American National Standard for Respiratory Protection,” (1992)
7. ANSI Z136.1, “Safe Use of Lasers,” (2000)
8. ANSI Z49.1, “Safety in Welding, Cutting and Allied Processes,” sections 4.3 and E4.3 (1999)
9. NFPA 70, “National Electrical Code,” (2005)
10. NFPA 70E, “Standard for Electrical Safety in the Workplace,” (2004)
11. American Society of Mechanical Engineers (ASME) Boilers and Pressure Vessel Code, sections I through XII including applicable Code Cases, (2004)
12. ASME B31 (ASME Code for Pressure Piping) as follows:
 - 12.1 B31.1—2001-Power Piping and B31.1a-2002-Addenda to ASME B31.1-1-2001
 - 12.2 B31.2-1968-Fuel Gas Piping
 - 12.3 B31.3-2002-Process Piping
 - 12.4 B31.5-2001-Refrigeration Piping and Heat Transfer Components, and B31.5a-2004-, Addenda to ASME B31.5-2001
 - 12.5 B31.8-2003-Gas Transmission and Distribution Piping Systems
 - 12.6 B31.9-1996-Building Services Piping
13. DOE Manual 231.1-1A, Environment, Safety and Health Reporting manual, September 9, 2004
14. DOE M 231.1-1A, Chg 1, 9/9/04, “Environment, Safety, and Health Reporting Manual”

ATTACHMENT 3 – 10 CFR 851 IMPLEMENTATION MATRIX – REQUIREMENTS CROSSWALK TABLE

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
	Subpart B Program Requirements	
	<i>851.10 General Requirements</i>	
	<i>(a) With respect to a covered workplace for which a contractor is responsible, the contractor must:</i>	
1	(1) Provide a place of employment that is free from recognized hazards that are causing or have the potential to cause death or serious physical harm to workers; and	WSHPP Section 4.4.1 Laboratory Policy on Safety Health, and Environmental Protection, EH&S Manual Chapter 1100
	<i>(2) Ensure that work is performed in accordance with:</i>	
2	(i) All applicable requirements of this part; and	EH&S Manual – all chapters
3	(ii) With the worker safety and health program for that workplace.	EH&S Manual – all chapters
	<i>(b) The written worker safety and health program must describe how the contractor complies with the:</i>	
4	(1) Requirements set forth in Subpart C of this part that are applicable to the hazards associated with the contractor's scope of work; and	WSHPP Section 4.2 EH&S Manual – all chapters
5	(2) Any compliance order issued by the Secretary pursuant to section 851.4 of this part.	Per Rule, not effective until 2/26/2007. No other compliance orders promulgated.
	<i>851.11 Development and approval of the worker safety and health program</i>	
	<i>(a) Preparation and submission of worker safety and health program.</i>	
6	By February 26, 2007, contractors must submit to the appropriate Head of DOE Field Element for approval a written worker safety and health program that provides the methods for implementing the requirements of Subpart C of this part.	No specific implementing document required.
7	(1) If a contractor is responsible for more than one covered workplace at a DOE site, the contractor must establish and maintain a single worker safety and health program for the covered workplaces for which the contractor is responsible.	NA – Jefferson Science Associates is responsible for only one DOE site workplace – the Newport News site.
	<i>(2) If more than one contractor is responsible for covered workplaces, each contractor must:</i>	

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
8	(i) Establish and maintain a worker safety and health program for the workplaces for which the contractor is responsible; and	NA – Jefferson Science Associates is only responsible for one DOE Site workplace – the Newport News site.
9	(ii) Coordinate with the other contractors responsible for work at the covered workplaces to ensure that there are clear roles, responsibilities and procedures to ensure the safety and health of workers at multi-contractor workplaces.	WSHPP Section 1.0 and 3.0. Several small businesses provide service support at TJNAF under contracts with both TJSO and JSA
	<i>(3) The worker safety and health program must describe how the contractor will:</i>	
10	(i) Comply with the requirements set forth in Subpart C of this part that are applicable to the covered workplace, including the methods for implementing those requirements; and	WSHPP Section 4.2, 4.3 EH&S Manual – all chapters ISMS Program Description
11	(ii) Integrate the requirements set forth in Subpart C of this part that are applicable to a covered workplace with other related site-specific worker protection activities and with the integrated safety management system.	WSHPP Section 4.2, 4.3 EH&S Manual – all chapters ISMS Program Description
	<i>(b) DOE evaluation and approval. The Head of DOE Field Element must complete a review and provide written approval of the contractor's worker safety and health program, within 90 days of receiving the document. The worker safety and health program and any updates are deemed approved 90 days after submission if they are not specifically approved or rejected by DOE earlier.</i>	
12	(1) Beginning May 25, 2007, no work may be performed at a covered workplace unless an approved worker safety and health program is in place for the workplace.	No specific implementing document required.
13	(2) Contractors must send a copy of the approved program to the appropriate DOE Headquarters office	WSHPP, Section 4.5.2
14	(3) Contractors must furnish a copy of the approved worker safety and health program, upon written request, to the affected workers or their designated representatives.	WSHPP, Section 4.5.2
15	(c) Updates. (1) Contractors must submit an update of the worker safety and health program to the appropriate Head of DOE Field Element, for review and approval whenever a significant change or addition to the program is made, or a change in contractors occurs.	WSHPP, Section 4.5.3

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
16	(2) Contractors must submit annually to DOE either an updated worker safety and health program for approval or a letter stating that no changes are necessary in the currently approved worker safety and health program.	WSHPP, Section 4.5.3
17	(3) Contractors must incorporate in the worker safety and health program any changes, conditions, or workplace safety and health standards directed by DOE consistent with the requirements of this part and DEAR 970.5204-2, Laws, Regulations and DOE Directives (December, 2000) and associated contract clauses.	WSHPP, Section 4.5.3
	(d) Labor Organizations.	
	<i>If a contractor employs or supervises workers who are represented for collective bargaining by a labor organization, the contractor must:</i>	
18	(1) Give the labor organization timely notice of the development and implementation of the worker safety and health program and any updates thereto; and	NA – There is no collective bargaining labor organization at TJNAF
19	(2) Upon timely request, bargain concerning implementation of this part, consistent with the Federal labor laws.	NA – There is no collective bargaining labor organization at TJNAF
	<i>851.12 Implementation</i>	
20	(a) Contractors must implement the requirements of this part.	WSHPP EH&S Manual ISMS Description
	<i>(b) Nothing in this part precludes a contractor from taking any additional protective action that is determined to be necessary to protect the safety and health of workers.</i>	
	<i>851.13 Compliance</i>	
21	(a) Contractors must achieve compliance with all the requirements of Subpart C of this part, and their approved worker safety and health program no later than May 25, 2007. Contractors may be required to comply contractually with the requirements of this rule before May 25, 2007.	No specific implementing documentation is required.

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
22	(b) In the event a contractor has established a written safety and health program, an Integrated Safety Management System (ISM) description pursuant to the DEAR Clause, or an approved Work Smart Standards (WSS) process before the date of issuance of the final rule, the Contractor may use that program, description, or process as the worker safety and health program required by this part if the appropriate Head of the DOE Field Element approves such use on the basis of written documentation provided by the contractor that identifies the specific portions of the program, description, or process, including any additional requirements or implementation methods to be added to the existing program, description, or process, that satisfy the requirements of this part and that provide a workplace as safe and healthful as would be provided by the requirements of this part.	This WSHPP description implements the program and describes integration with the ISMS and Work Smart Standards.
	<i>(c) Nothing in this part shall be construed to limit or otherwise affect contractual obligations of a contractor to comply with contractual requirements that are not inconsistent with the requirements of this part.</i>	
	Subpart C Specific Program Requirements §851.20	
	<i>Management responsibilities and worker rights and responsibilities.</i>	
	<i>(a) Management responsibilities. Contractors are responsible for the safety and health of their workforce and must ensure that contractor management at a covered workplace:</i>	
23	(1) Establish written policy, goals, and objectives for the worker safety and health program;	WSHPP Section 4.7.1.1
24	(2) Use qualified worker safety and health staff (e.g., a certified industrial hygienist, or safety professional) to direct and manage the program;	WSHPP Section 4.7.1.2
25	(3) Assign worker safety and health program responsibilities, evaluate personnel performance, and hold personnel accountable for worker safety and health performance;	WSHPP Section 4.7.1.3

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
26	(4) Provide mechanisms to involve workers and their elected representatives in the development of the worker safety and health program goals, objectives, and performance measures and in the identification and control of hazards in the workplace;	WSHPP Section 4.7.1.4 EH&S Manual Chapters 2240, 2310, 3110, 3120, 3130, 3210. 3220, 3310, 3320, 5200, 5300.
27	(5) Provide workers with access to information relevant to the worker safety and health program;	WSHPP Sections 4.5.2 and 4.7.1.5.
28	(6) Establish procedures for workers to report without reprisal job-related fatalities, injuries, illnesses, incidents, and hazards and make recommendations about appropriate ways to control those hazards;	WSHPP Section 4.7.1.7 EH&S Manual Chapters 2210, 2310, 3330, 5200, 5300. Administrative Manual Independent Assessment Procedure Management Assessment Procedure
29	(7) Provide for prompt response to such reports and recommendations;	WSHPP Section 4.7.1.7 EH&S Manual Chapters 2210, 2310, 3330
30	(8) Provide for regular communication with workers about workplace safety and health matters;	WSHPP Section 4.7.1.8
31	(9) Establish procedures to permit workers to stop work or decline to perform an assigned task because of a reasonable belief that the task poses an imminent risk of death, serious physical harm, or other serious hazard to workers, in circumstances where the workers believe there is insufficient time to utilize normal hazard reporting and abatement procedures; and	WSHPP Section 4.7.1.9 EH&S Manual Chapter 2210 EH&S Manual Chapter 3330
32	(10) Inform workers of their rights and responsibility by appropriate means, including posting the DOE-designated Worker Protection Poster in the workplace where it is accessible to all workers	WSHPP Section 4.7.1.10. EH&S Manual Chapters 1100, 2210, 3220, 5200.
	(b) Worker rights and responsibilities.	
33	Workers must comply with the requirements of this part, including the worker safety and health program, which are applicable to their own actions and conduct.	WSHPP Section 4.7.1 EH&S Manual Chapters 1100 and 2210
	<i>Workers at a covered workplace have the right, without reprisal, to:</i>	
34	(1) Participate in activities described in this section on official time;	WSHPP Section 4.7.2.1 EH&S Manual Chapter 2210
	(2) <i>Have access to:</i>	
35	(i) DOE safety and health publications;	WSHPP Section 4.7.2.2
36	(ii) The worker safety and health program for the covered workplace;	WSHPP Sections 4.5.2, 4.7.1.5, and 4.7.2.2

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
37	(iii) The standards, controls, and procedures applicable to the covered workplace;	WSHPP Section 4.7.2.2 EH&S Manual Chapter 1200
38	(iv) The safety and health poster that informs the worker of relevant rights and responsibilities;	WSHPP Section 4.7.2.2 EH&S Manual Chapter 2210
39	(v) Limited information on any recordkeeping log (OSHA Form 300). Access is subject to Freedom of Information Act requirements and restrictions; and	WSHPP Section 4.7.2.2
40	(vi) The DOE Form 5484.3 (the DOE equivalent to OSHA Form 301) that contains the employee's name as the injured or ill worker;	WSHPP Section 4.7.2.2.
41	(3) Be notified when monitoring results indicate the worker was overexposed to hazardous materials;	WSHPP Section 4.7.2.3 Industrial Hygiene Administrative Procedures Administrative Manual Section 103
42	(4) Observe monitoring or measuring of hazardous agents and have the results of their own exposure monitoring;	WSHPP Section 4.7.2.4 Industrial Hygiene Administrative Procedures Administrative Manual Section 103
43	(5) A representative authorized by employees may accompany the Director or his authorized personnel during the physical inspection of the workplace for the purpose of aiding the inspection. When no authorized employee representative is available, the Director (i.e., DOE Official having authority to investigate the nature and extent of compliance with 10 CFR 851) or his authorized representative must consult, as appropriate, with employees on matters of worker safety and health;	WSHPP Section 4.7.2.4 EH&S Manual Chapter 2210
44	(6) Request and receive results of inspections and accident investigations;	WSHPP Section 4.7.2.5 EH&S Manual Chapters 5100, 5200, 5300
45	(7) Express concerns related to worker safety and health;	WSHPP Section 4.7.2.6 EH&S Manual Chapters 2210, 2310, 5200
46	(8) Decline to perform an assigned task because of a reasonable belief that, under the circumstances, the task poses an imminent risk of death or serious physical harm to the worker coupled with a reasonable belief that there is insufficient time to seek effective redress through normal hazard reporting and abatement procedures; and	WSHPP Section 4.7.2.7 EH&S Manual Chapters 2210 and 3330

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
47	(9) Stop work when the worker discovers employee exposures to imminently dangerous conditions or other serious hazards; provided that any stop work authority must be exercised in a justifiable and responsible manner in accordance with procedures established in the approved worker safety and health program.	WSHPP Section 4.7.2.8 EH&S Manual Chapters 2210 and 3330
	<i>851.21 Hazard identification and assessment</i>	
48	(a) Contractors must establish procedures to identify existing and potential workplace hazards and assess the risk of associated workers injury and illness.	WSHPP Section 4.7.3.1 EH&S Manual Chapters 2220, 3110, 3120, 3130, 3210, 3310 Facility Safety Analysis Document ISMS Description Independent Assessment Procedure Management Assessment Procedure
	<i>Procedures must include methods to:</i>	
49	(1) Assess worker exposure to chemical, physical, biological, or safety workplace hazards through appropriate workplace monitoring;	WSHPP 4.7.3.2 EH&S Manual Chapter 61XX series, 63XX series, 64XX series, 6500, 66XX series, 69XX series
50	(2) Document assessment for chemical, physical, biological, and safety workplace hazards using recognized exposure assessment and testing methodologies and using of accredited and certified laboratories;	WSHPP Section 4.7.3.3 Industrial Hygiene Administrative Procedures
51	(3) Record observations, testing and monitoring results;	WSHPP Section 4.7.3.4 Industrial Hygiene Administrative Procedures
52	(4) Analyze designs of new facilities and modifications to existing facilities and equipment for potential workplace hazards;	WSHPP Section 4.7.3.5 EH&S Manual Chapter 3110
53	(5) Evaluate operations, procedures, and facilities to identify workplace hazards;	WSHPP Section 4.7.3.6 EH&S Manual Chapters 1100, 3120, 3130, 3210, 3310
54	(6) Perform routine job activity-level hazard analyses;	WSHPP Section 4.7.3.7 EH&S Manual Chapter 3210
55	(7) Review site safety and health experience information; and	WSHPP 4.7.3.5
56	(8) Consider interaction between workplace hazards and other hazards such as radiological hazards.	WSHPP Section 4.7.3.9 EH&S Manual Chapter 3210
57	(b) Contractors must submit to the Head of DOE Field Element a list of closure facility hazards and the established controls within 90 days after identifying such hazards.	WSHPP Section 4.7.3.10 – TJNAF has no closure facilities

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
	<i>The Head of DOE Field Element, with concurrence by the Cognizant Secretarial Officer, has 90 days to accept the closure facility hazard controls or direct additional actions to either:</i>	
	<i>(1) Achieve technical compliance; or</i>	
	<i>(2) Provide additional controls to protect the workers.</i>	
58	(c) Contractors must perform the activities identified in paragraph (a) of this section, initially to obtain baseline information and as often thereafter as necessary to ensure compliance with the requirements in this Subpart.	WSHPP Section 4.7.3.11 Facility Safety Analysis Document EH&S Manual Chapter 2410
	<i>851.22 Hazard prevention and abatement</i>	
59	(a) Contractors must establish and implement a hazard prevention and abatement process to ensure that all identified and potential hazards are prevented or abated in a timely manner.	WSHPP Section 4.7.4.1 EH&S Manual Chapter 3110, 3120, 3130, 3220, 3310
60	(1) For hazards identified either in the facility design or during the development of procedures, controls must be incorporated in the appropriate facility design or procedure.	WSHPP Section 4.7.4.2 EH&S Manual Chapter 3110, 3120, 3130, 3220, 3310
	<i>(2) For existing hazards identified in the workplace, contractors must:</i>	
61	(i) Prioritize and implement abatement actions according to the risk to workers;	WSHPP Section 4.7.4.3 EH&S Manual Chapter 3110, 3120, 3130, 3220, 3310
62	(ii) Implement interim protective measures pending final abatement; and	WSHPP Section 4.7.4.3 EH&S Manual Chapter 3110, 3120, 3130, 3220, 3310
63	(iii) Protect workers from dangerous safety and health conditions;	WSHPP Section 4.7.4.3 EH&S Manual Chapter 3110, 3120, 3130, 3220, 3310
	<i>(b) Contractors must select hazard controls based on the following hierarchy:</i>	
64	(1) Elimination or substitution of the hazards where feasible and appropriate;	WSHPP Section 4.7.4.4 EH&S Manual Chapter 3210
65	(2) Engineering controls where feasible and appropriate;	WSHPP Section 4.7.4.4 EH&S Manual Chapter 3210
66	(3) Work practices and administrative controls that limit worker exposures; and	WSHPP Section 4.7.4.4 EH&S Manual Chapter 3210
67	(4) Personal protective equipment.	WSHPP Section 4.7.4.4 EH&S Manual Chapter 3210

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
68	(c) Contractors must address hazards when selecting or purchasing equipment, products, and services.	WSHPP Section 4.7.4.5 EH&S Manual Chapters 2230, 3410, 3420
	<i>851.23 Safety and health standards</i>	
	<i>(a) Contractors must comply with the following safety and health standards that are applicable to the hazards at their covered workplace:</i>	
69	(1) Title 10 Code of Federal Regulations (CFR) 850, "Chronic Beryllium Disease Prevention Program."	WSHPP Sections 4.1 through 4.3 EH&S Manual Chapter 6682
70	(2) Title 29 CFR, Parts 1904.4 through 1904.11, 1904.29 through 1904.33; 1904.44, and 1904.46, "Recording and Reporting Occupational Injuries and Illnesses."	WSHPP Sections 4.1 through 4.3 EH&S Manual Chapter 5400
71	(3) Title 29 CFR, Part 1910, "Occupational Safety and Health Standards," excluding 29 CFR 1910. 96, "Ionizing Radiation."	WSHPP Sections 4.1 through 4.3 EH&S Manual Chapter 2410
72	(4) Title 29 CFR, Part 1915, "Shipyard Employment."	Not applicable
73	(5) Title 29 CFR, Part 1917, "Marine Terminals."	Not applicable
74	(6) Title 29 CFR, Part 1918, "Safety and Health Regulations for Long-shoring."	Not applicable
75	(7) Title 29 CFR, Part 1926, "Safety and Health Regulations for Construction."	WSHPP Sections 4.1 through 4.3 EH&S Manual Chapter 2410
76	(8) Title 29 CFR, Part 1928, "Occupational Safety and Health Standards for Agriculture."	Not applicable
77	(9) American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices" when the ACGIH Threshold Limit Values (TLVs) are lower (more protective) than permissible exposure limits in 29 CFR 1910. When the ACGIH TLVs are used as exposure limits, contractors must nonetheless comply with the other provisions of any applicable expanded health standard found in 29 CFR 1910.	WSHPP Sections 4.1 through 4.3 EH&S Manual Chapter 6610 Industrial Hygiene Administrative and Operating Procedures

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
78	(10) American National Standards Institute (ANSI) Z88.2, "American National Standard Practices for Respiratory Protection," (2004) (incorporated by reference see § 851.27).	WSHPP Sections 4.1 through 4.3 EH&S Manual Chapter 6630 (Note: The 2004 version has not been approved for use and currently does not exist. The previous version (1992) was withdrawn when it reached its 10 year anniversary. JSA currently follows the requirements of the 1992 version of this standard.
79	(11) ANSI Z136.1, "Safe Use of Lasers," (2000) (incorporated by reference see § 851.27).	WSHPP Sections 4.1 through 4.3 EH&S Manual Chapter 6410
80	(12) ANSI Z49.1, "Safety in Welding, Cutting and Allied Processes," sections 4.3 and E4.3 (1999) (incorporated by reference see § 851.27).	WSHPP Sections 4.1 through 4.3 EH&S Manual Chapter 6122, 6430
81	(13) National Fire Protection Association (NFPA) 70, "National Electrical Code," (2005) (incorporated by reference see § 851.27).	WSHPP Sections 4.1 through 4.3 EH&S Manual Chapters 6210, 6220, 6230, 6240
82	(14) NFPA 70E, "Electrical Safety in the Workplace," (2004) (incorporated by reference see § 851.27).	WSHPP Sections 4.1 through 4.3 EH&S Manual Chapters 6210, 6220, 6230, 6240
	<i>(b) Nothing in this part must be construed as relieving a contractor from complying with any additional specific safety and health requirement that it determines to be necessary to protect the safety and health of workers.</i>	
	<i>851.24 Functional areas</i>	
83	(a) Contractors must have a structured approach to their worker safety and health program which at a minimum, include provisions for the following applicable functional areas in their worker safety and health program: construction safety; fire protection; firearms safety; explosives safety; pressure safety; electrical safety; industrial hygiene; occupational medicine; biological safety; and motor vehicle safety.	WSHPP Section 4.7.6
84	(b) In implementing the structured approach required by paragraph (a) Of this section, contractors must comply with the applicable standards and provisions in Appendix A of this part, entitled "Worker Safety and Health Functional Areas."	WSHPP Section 4.7.6
	<i>851.25 Training and information</i>	

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
85	(a) Contractors must develop and implement a worker safety and health training and information program to ensure that all workers exposed or potentially exposed to hazards are provided with the training and information on that hazard in order to perform their duties in a safe and healthful manner.	WSHPP Section 4.7.7 EH&S Manual Chapters 2210, 4100, 4200
	<i>(b) The contractor must provide:</i>	
86	(1) Training and information for new workers, before or at the time of initial assignment to a job involving exposure to a hazard;	WSHPP Section 4.7.7 EH&S Manual Chapters 2210, 4100, 4200
87	(2) Periodic training as often as necessary to ensure that workers are adequately trained and informed; and	WSHPP Section 4.7.7 EH&S Manual Chapters 2210, 4100, 4200
88	(3) Additional training when safety and health information or a change in workplace conditions indicates that a new or increased hazard exists.	WSHPP Section 4.7.7 EH&S Manual Chapters 2210, 4100, 4200
89	(c) Contractors must provide training and information to workers who have worker safety and health program responsibilities that is necessary for them to carry out those responsibilities.	WSHPP Section 4.7.7 EH&S Manual Chapter 3520 EH&S Manual Chapters 4100 and 4200
	<i>851.26 Recordkeeping and reporting</i>	
	<i>(a) Recordkeeping. Contractors must:</i>	
90	(1) Establish and maintain complete and accurate records of all hazard inventory information, hazard assessments, exposure measurements, and exposure controls.	WSHPP Section 4.7.8 Industrial Hygiene Administrative Procedures
91	(2) Ensure that the work-related injuries and illnesses of its workers and subcontractor workers are recorded and reported accurately and consistent with DOE Manual 231.1-1A, Environment, Safety and Health Reporting Manual, September 9, 2004 (incorporated by reference, see §851.27).	WSHPP Section 4.7.8 EH&S Manual Chapters 5200, 5300, 5400
92	(3) Comply with the applicable to occupational injury and illness recordkeeping and reporting workplace safety and health standards in § 851.23 of this part at their site, unless otherwise directed in DOE Manual 231.1-1A.	WSHPP Section 4.7.8 EH&S Manual Chapters 5200, 5300, 5400
93	(4) Not conceal nor destroy any information concerning non-compliance or potential noncompliance with the requirements of this part.	WSHPP Section 4.7.8 EH&S Manual Chapters 5200, 5300, 5400
	<i>(b) Reporting and investigation.</i>	
	<i>Contractors must:</i>	

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
94	(1) Report and investigate accidents, injuries and illness; and	WSHPP Section 4.7.8 EH&S Manual Section 5200
95	(2) Analyze related data for trends and lessons learned (reference DOE Order 225.1A, Accident Investigations, November 26, 1997).	WSHPP Section 4.7.8
	APPENDIX A TO PART 851 WORKER SAFETY AND HEALTH FUNCTIONAL AREAS	
	<i>This appendix establishes the mandatory requirements for implementing the applicable functional areas required by §851.24 of this part.</i>	
	1. Construction safety	
	(a) For each separately definable construction activity (e.g., excavations, foundations, structural steel, roofing) the construction contractor must:	
96	(1) Prepare and have approved by the construction manager an activity hazard analysis prior to commencement of affected work.	WSHPP Attachment 1, Section 1.1 Procurement Master Specification Section 01525 EH&S Manual Chapter 3420
	Such analyses must:	
97	(i) Identify foreseeable hazards and planned protective measures;	WSHPP Attachment 1, Section 1.1 Procurement Master Specification Section 01525 EH&S Manual Chapter 3420
98	(ii) Address further hazards revealed by supplemental site information (e.g., site characterization data, as-built drawings) provided by the construction manager;	WSHPP Attachment 1, Section 1.1 Procurement Master Specification Section 01525 EH&S Manual Chapter 3420
99	(iii) Provide drawings and/or other documentation of protective measures for which applicable Occupational Safety and Health Administration (OSHA) standards require preparation by a Professional Engineer or other qualified professional, and	WSHPP Attachment 1, Section 1.1 Procurement Master Specification Section 01525 EH&S Manual Chapter 3420
100	(iv) Identify competent persons required for workplace inspections of the construction activity, where required by OSHA standards.	WSHPP Attachment 1, Section 1.1 Procurement Master Specification Section 01525 EH&S Manual Chapter 3420
101	(2) Ensure workers are aware of foreseeable hazards and the protective measures described within the activity analysis prior to beginning work on the affected activity.	WSHPP Attachment 1, Section 1.1 Procurement Master Specification Section 01525 EH&S Manual Chapter 3420

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
102	(3) Require that workers acknowledge being informed of the hazards and protective measures associated with assigned work activities. Those workers failing to utilize appropriate protective measures must be subject to the construction contractor's disciplinary process.	WSHPP Attachment 1, Section 1.1 Procurement Master Specification Section 01525 EH&S Manual Chapter 3420
103	(b) During periods of active construction (i.e., excluding weekends, weather delays, or other periods of work inactivity), the construction contractor must have a designated representative on the construction worksite who is knowledgeable of the project's hazards and has full authority to act on behalf of the construction contractor. The contractor's designated representative must make frequent and regular inspections of the construction worksite to identify and correct any instances of noncompliance with project safety and health requirements.	WSHPP Attachment 1, Section 1.1 Procurement Master Specification Section 01525 EH&S Manual Chapter 3420
104	(c) Workers must be instructed to report to the construction contractor's designated representative, hazards not previously identified or evaluated. If immediate corrective action is not possible or the hazard falls outside of project scope, the construction contractor must immediately notify affected workers, post appropriate warning signs, implement needed interim control measures, and notify the construction manager of the action taken. The contractor or the designated representative must stop work in the affected area until appropriate protective measures are established.	WSHPP Attachment 1, Section 1.1 Procurement Master Specification Section 01525 EH&S Manual Chapter 3420

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
105	(d) The construction contractor must prepare a written construction project safety and health plan to implement the requirements of this section and obtain approval of the plan by the construction manager prior to commencement of any work covered by the plan. In the plan, the contractor must designate the individual(s) responsible for on-site implementation of the plan, specify qualifications for those individuals, and provide a list of those project activities for which subsequent hazard analyses are to be performed. The level of detail within the construction project safety and health plan should be commensurate with the size, complexity and risk level of the construction project. The content of this plan need not duplicate those provisions that were previously submitted and approved as required by § 851.11 of this part.	WSHPP Attachment 1, Section 1.1 Procurement Master Specification Section 01525 EH&S Manual Chapter 3420
	2. Fire protection	
106	(a) Contractors must implement a comprehensive fire safety and emergency response program to protect workers commensurate with the nature of the work that is performed. This includes appropriate facility and site-wide fire protection, fire alarm notification and egress features, and access to a fully staffed, trained, and equipped emergency response organization that is capable of responding in a timely and effective manner to site emergencies.	WSHPP Attachment 1, Section 1.2 EH&S Manual Chapters 6910, 6920, 6930, 6950
107	(b) An acceptable fire protection program must include those fire protection criteria and procedures, analyses, hardware and systems, apparatus and equipment, and personnel that would comprehensively ensure that the objective in paragraph 2(a) of this section is met. This includes meeting applicable building codes and National Fire Protection Association codes and standards.	WSHPP Attachment 1, Section 1.2 EH&S Manual Chapters 6910, 6920, 6930, 6950

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
3. Explosives safety		
108	(a) Contractors responsible for the use of explosive materials must establish and implement a comprehensive explosives safety program.	Not applicable
109	(b) Contractors must comply with the policy and requirements specified in the DOE Manual 440.1-1, DOE Explosives Safety Manual, March 29, 1996 (incorporated by reference, see § 851.27). A Contractor may choose a successor version, if approved by DOE.	Not applicable
110	(c) Contractors must determine the applicability of the explosives safety directive requirements to research and development laboratory type operations consistent with the DOE level of protection criteria described in the explosives safety directive.	Not applicable
4. Pressure safety.		
111	(a) Contractors must establish safety policies and procedures to ensure that pressure systems are designed, fabricated, tested, inspected, maintained, repaired, and operated by trained and qualified personnel in accordance with applicable and sound engineering principles.	Gap – Pressure Safety Program needs to be defined and documented
<i>(b) Contractors must ensure that all pressure vessels, boilers, air receivers, and supporting piping systems conform to:</i>		
112	(1) The applicable American Society of Mechanical Engineers (ASME) Boilers and Pressure Vessel Code; sections I through section XII including applicable Code Cases	Pressure Safety Program (to be issued)
113	(2) The applicable ASME B.31 Standards of Pressure Piping; and or;	Pressure Safety Program (to be issued)
114	(3) The strictest applicable state and local codes.	Pressure Safety Program (to be issued)
115	(c) When national consensus codes are not applicable (because of pressure range, vessel geometry, use of special materials, etc.), contractors must implement measures to provide equivalent protection and ensure a level of safety greater than or equal to the level of protection afforded by the ASME or applicable state or local code.	Pressure Safety Program (to be issued)
<i>Measures must include the following:</i>		

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
116	(1) Design drawings, sketches, and calculations must be reviewed and approved by a qualified independent design professional (i.e., professional engineer). Documented organizational peer review is acceptable.	Pressure Safety Program (to be issued)
117	(2) Qualified personnel must be used to perform examinations and inspections of materials, in-process fabrications, non-destructive tests, and acceptance test.	Pressure Safety Program (to be issued)
118	(3) Documentation, traceability, and accountability must be maintained for each pressure vessel or system, including descriptions of design, pressure, testing, operation, repair, and maintenance.	Pressure Safety Program (to be issued)
	5. Firearms safety.	
119	(a) A contractor engaged in DOE activities involving the use of firearms must establish firearms safety policies and procedures for security operation, and training to ensure proper accident prevention controls are in place.	Not applicable
120	(1) Written procedures must address firearms safety, engineering and administrative controls, as well as personal protective equipment requirements.	Not applicable
	<i>(2) As a minimum, procedures must be established for:</i>	
121	(i) Storage, handling, cleaning, inventory, and maintenance of firearms and associated ammunition;	Not applicable
122	(ii) Activities such as loading, unloading, and exchanging firearms. These procedures must address use of bullet containment devices and those techniques to be used when no bullet containment device is available;	Not applicable
123	(iii) Use and storage of pyrotechnics, explosives, and/or explosive projectiles;	Not applicable
124	(iv) Handling misfires, duds, and unauthorized discharges;	Not applicable
125	(v) Live fire training, qualification, and evaluation activities;	Not applicable
126	(vi) Training and exercises using engagement simulation systems;	Not applicable
127	(vii) Medical response at firearms training facilities; and	Not applicable

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
128	(viii) Use of firing ranges by personnel other than DOE or DOE contractor protective forces personnel.	Not applicable
129	(b) Contractors must ensure that personnel responsible for the direction and operation of the firearms safety program are professionally qualified and have sufficient time and authority to implement the procedures under this section.	Not applicable
130	(c) Contractors must ensure that firearms instructors and armorers have been certified by the Safeguards and Security National Training Center to conduct the level of activity provided. Personnel must not be allowed to conduct activities for which they have not been certified.	Not applicable
131	(d) Contractors must conduct formal appraisals assessing implementation of procedures, personnel responsibilities, and duty assignments to ensure overall policy objectives and performance criteria are being met by qualified personnel.	Not applicable
132	(e) Contractors must implement procedures related to firearms training, live fire range safety, qualification, and evaluation activities, including procedures requiring that:	Not applicable
133	(1) Personnel must successfully complete initial firearms safety training before being issued any firearms. Authorization to remain in armed status will continue only if the employee demonstrates the technical and practical knowledge of firearms safety semiannually;	Not applicable
134	(2) Authorized armed personnel must demonstrate through documented limited scope performance tests both technical and practical knowledge of firearms handling and safety on a semi-annual basis;	Not applicable
135	(3) All firearms training lesson plans must incorporate safety for all aspects of firearms training task performance standards. The lesson plans must follow the standards set forth by the Safeguards and Security Central Training Academy's standard training programs;	Not applicable
136	(4) Firearms safety briefings must immediately precede training, qualifications, and evaluation activities involving live fire and/or engagement simulation systems;	Not applicable

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
137	(5) A safety analysis approved by the Head of DOE Field Element must be developed for the facilities and operation of each live fire range prior to implementation of any new training, qualification, or evaluation activity. Results of these analyses must be incorporated into procedures, lesson plans, exercise plans, and limited scope performance tests;	Not applicable
138	(6) Firing range safety procedures must be conspicuously posted at all range facilities; and	Not applicable
139	(7) Live fire ranges, approved by the Head of DOE Field Element, must be properly sited to protect personnel on the range, as well as personnel and property not associated with the range.	Not applicable
140	(f) Contractors must ensure that the transportation, handling, placarding, and storage of munitions conform to the applicable DOE requirements.	Not applicable
	6. Industrial hygiene.	
	<i>Contractors must implement a comprehensive industrial hygiene program that includes at least the following elements:</i>	
141	(a) Initial or baseline surveys and periodic resurveys and /or exposure monitoring as appropriate of all work areas or operations to identify and evaluate potential worker health risks;	WSHPP Attachment 1, Section 1.6 EH&S Manual Chapter 6XXX series
142	(b) Coordination with planning and design personnel to anticipate and control health hazards that proposed facilities and operations would introduce;	WSHPP Attachment 1, Section 1.6 EH&S Manual Chapter 3110
143	(c) Coordination with cognizant occupational medical, environmental, health physics, and work planning professionals;	WSHPP Attachment 1, Section 1.6 EH&S Manual Chapter 6XXX series
144	(d) Policies and procedures to mitigate the risk from identified and potential occupational carcinogens;	WSHPP Attachment 1, Section 1.6 EH&S Manual Chapter 6XXX series
145	(e) Professionally and technically qualified industrial hygienists to manage and implement the industrial hygiene program; and	WSHPP Attachment 1, Section 1.6

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
146	(f) Use of respiratory protection equipment tested under the DOE Respirator Acceptance Program for Supplied-air Suits (DOE-Technical Standard-1167-2003) when National Institute for Occupational Safety and Health-approved respiratory protection does not exist for DOE tasks that require such equipment. For security operations conducted in accordance with Presidential Directive Decision 39, U.S. POLICY ON COUNTER TERRORISM, use of Department of Defense military type masks for respiratory protection by security personnel is acceptable.	WSHPP Attachment 1, Section 1.6 EH&S Manual Chapter 6630
	7. Biological safety.	
	<i>(a) Contractors must establish and implement a biological safety program that:</i>	
147	(1) Establishes an Institutional Biosafety Committee (IBC) or equivalent.	Not applicable
	<i>The IBC must:</i>	
148	(i) Review any work with biological etiologic agents for compliance with applicable Center for Disease Control (CDC), National Institutes of Health (NIH), World Health Organization (WHO), and other international, Federal, state, and local guidelines and assess the containment level, facilities, procedures, practices, and training and expertise of personnel; and	Not applicable
149	(ii) Review the site's security, safeguards, and emergency management plans and procedures to ensure they adequately consider work involving biological etiologic agents.	Not applicable
150	(2) Maintains an inventory and status of biological etiologic agents, and provide to the responsible field and area office, through the laboratory IBC (or its equivalent), an annual status report describing the status and inventory of biological etiologic agents and the biological safety program.	Not applicable
151	(3) Provides for submission to the appropriate Head of DOE Field Element, for review and concurrence before transmittal to the Center for Disease Control (CDC), each Laboratory Registration/Select Agent Program registration application package requesting registration of a laboratory facility for the purpose of transferring, receiving, or handling biological select agents.	Not applicable

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
152	(4) Provides for submission to the appropriate Head of DOE Field Element, a copy of each CDC Form EA-101, Transfer of Select Agents, upon initial submission of the Form EA-101 to a vendor or other supplier requesting or ordering a biological select agent for transfer, receipt, and handling in the registered facility. Submit to the appropriate Head of DOE Field Element the completed copy of the Form EA-101, documenting final disposition and/or destruction of the select agent, within 10 days of completion of the Form EA-101.	Not applicable
153	(5) Confirms that the site safeguards and security plans and emergency management programs address biological etiologic agents, with particular emphasis on biological select agents.	Not applicable
154	(6) Establishes an immunization policy for personnel working with biological etiologic agents based on the evaluation of risk and benefit of immunization.	Not applicable
8. Occupational medicine.		
155	<i>(a) Contractors must establish and provide comprehensive occupational medicine services to workers employed at a covered work place who:</i>	
156	(i) Work on a DOE site for more than 30 days in a 12-month period; or	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
157	(ii) Are enrolled for any length of time in a medical or exposure monitoring program required by this rule and/or any other applicable Federal, State or local regulation, or other obligation.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
158	(b) The occupational medicine services must be under the direction of a graduate of a school of medicine or osteopathy and licensed for the practice of medicine in the state in which the site is located.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
159	(c) Occupational medical physicians, occupational health nurses, physician's assistants, nurse practitioners, psychologists, employee assistance counselors, and other occupational health personnel providing occupational medicine services must be licensed, registered, or certified as required by Federal or State law where employed.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
160	(d) Contractors must provide the occupational medicine providers access to hazard information by promoting its communication, coordination, and sharing among operating and environment, safety, and health protection organizations.	E WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description H&S Manual Chapter 68XX series
	<i>(1) Contractors must provide the occupational medicine providers with access to information on the following:</i>	
161	(i) Current information about actual or potential work-related site hazards (chemical, radiological, physical, biological, or ergonomic);	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
162	(ii) Employee job-task and hazard analysis information, including essential job functions;	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
163	(iii) Actual or potential work-site exposures of each employee; and	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
164	(iv) Personnel actions resulting in a change of job functions, hazards or exposures.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
165	(2) Contractors must notify the occupational medicine providers when an employee has been absent because of an injury or illness for more than 5 consecutive workdays (or an equivalent time period for those individuals on an alternative work schedule);	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
166	(3) Contractors must provide the occupational medicine provider information on, and the opportunity to participate in, worker safety and health team meetings and committees;	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
167	(4) Contractors must provide occupational medicine providers access to the workplace for evaluation of job conditions and issues relating to workers' health.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
	<i>(e) A designated occupational medicine provider must:</i>	
168	(1) Plan and implement the occupation medicine services; and	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
169	(2) Participate in worker protection teams to build and maintain necessary partnerships among workers, their representatives, managers, and safety and health protection specialists in establishing and maintaining a safe and healthful workplace.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
170	(f) A record, containing any medical, health history, exposure history, and demographic data collected for the occupational medicine purposes, must be developed and maintained for each employee for whom medical services are provided. All occupational medical records must be maintained in accordance with Executive Order 13335, Incentives for the Use of Health Information Technology.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
171	(1) Employee medical, psychological, and employee assistance program (EAP) records must be kept confidential, protected from unauthorized access, and stored under conditions that ensure their long-term preservation. Psychological records must be maintained separately from medical records and in the custody the designated psychologist in accordance with 10 CFR 712.38(b)(2).	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
172	(2) Access to these records must be provided in accordance with DOE regulations implementing the Privacy Act and the Energy Employees Occupational Illness Compensation Program Act.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
173	(g) The occupational medicine services provider must determine the content of the worker health evaluations, which must be conducted under the direction of a licensed physician, in accordance with current sound and acceptable medical practices and all pertinent statutory and regulatory requirements, such as the Americans with Disabilities Act.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
174	<i>(1) Workers must be informed of the purpose and nature of the medical evaluations and tests offered by the occupational medicine provider.</i>	
175	(i) The purpose, nature and results of evaluations and tests must be clearly communicated verbally and in writing to each worker provided testing;	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
176	(ii) The communication must be documented in the worker's medical record; and	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
	<i>(2) The following health evaluations must be conducted when determined necessary by the occupational medicine provider for the purpose of providing initial and continuing assessment of employee fitness for duty.</i>	

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
177	(i) At the time of employment entrance or transfer to a job with new functions and hazards, a medical placement evaluation of the individual's general health and physical and psychological capacity to perform work will establish a baseline record of physical condition and assure fitness for duty.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
178	(ii) Periodic, hazard-based medical monitoring or qualification-based fitness for duty evaluations required by regulations and standards, or as recommended by the occupational medicine services provider, will be provided on the frequency required.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
179	(iii) Diagnostic examinations will evaluate employee's injuries and illnesses to determine work-relatedness, the applicability of medical restrictions, and referral for definitive care, as appropriate.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
180	(iv) After a work-related injury or illness or an absence due to any injury or illness lasting 5 or more consecutive workdays (or an equivalent time period for those individuals on an alternative work schedule), a return to work evaluation will determine the individual's physical and psychological capacity to perform work and return to duty.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
181	(v) At the time of separation from employment, individuals shall be offered a general health evaluation to establish a record of physical condition.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
182	(h) The occupational medicine provider must monitor ill and injured workers to facilitate their rehabilitation and safe return to work and to minimize lost time and its associated costs.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
183	(1) The occupational medicine provider must place an individual under medical restrictions when health evaluations indicate that the worker should not perform certain job tasks. The occupational medicine provider must notify the worker and contractor management when employee work restrictions are imposed or removed.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
184	(i) Occupational medicine provider physician and medical staff must, on a timely basis, communicate results of health evaluations to management and safety and health protection specialists to facilitate the mitigation of worksite hazards.	EH&S Manual Chapter 68XX series

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
185	(j) The occupational medicine provider must include measures to identify and manage the principal preventable causes of premature morbidity and mortality affecting worker health and productivity.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
186	(1) The contractor must include programs to prevent and manage these causes of morbidity when evaluations demonstrate their cost effectiveness.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
187	(2) Contractors must make available to the occupational medicine provider appropriate access to information from health, disability, and other insurance plans (de-identified as necessary) in order to facilitate this process.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
	<i>(k) The occupational medicine services provider must review and approve the medical and behavioral aspects of employee counseling and health promotional programs, including the following types:</i>	
188	(1) Contractor-sponsored or contractor-supported EAPs;	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
189	(2) Contractor-sponsored or contractor-supported alcohol and other substance abuse rehabilitation programs; and	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
190	(3) Contractor-sponsored or contractor-supported wellness programs.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
191	(4) The occupational medicine services provider must review the medical aspects of immunization programs, blood-borne pathogens programs, and bio-hazardous waste programs to evaluate their conformance to applicable guidelines.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series
192	(5) The occupational medicine services provider must develop and periodically review medical emergency response procedures included in site emergency and disaster preparedness plans. The medical emergency responses must be integrated with nearby community emergency and disaster plans.	WSHPP Attachment 1, Section 1.8 Occupation Medicine Program Description EH&S Manual Chapter 68XX series

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
	9. Motor vehicle safety.	
193	<i>(a) Contractors must implement a motor vehicle safety program to protect the safety and health of all drivers and passengers in Government-owned or -leased motor vehicles and powered industrial equipment (i.e., fork trucks, tractors, platform lift trucks, and other similar specialized equipment powered by an electric motor or an internal combustion engine).</i>	
194	(b) The contractor must tailor the motor vehicle safety program to the individual DOE site or facility, based on an analysis of the needs of that particular site or facility.	
	(c) The motor vehicle safety program must address, as applicable to the contractor's operations:	
195	(1) Minimum licensing requirements (including appropriate testing and medical qualification) for personnel operating motor vehicles and powered industrial equipment;	WSHPP Attachment 1, Section 1.9 EH&S Manual Chapter 6170
196	(2) Requirements for the use of seat belts and provision of other safety devices;	WSHPP Attachment 1, Section 1.9 EH&S Manual Chapter 6170
197	(3) Training for specialty vehicle operators;	EH&S Manual Chapter 6170
198	(4) Requirements for motor vehicle maintenance and inspection;	WSHPP Attachment 1, Section 1.9 EH&S Manual Chapter 6170
199	(5) Uniform traffic and pedestrian control devices and road signs;	WSHPP Attachment 1, Section 1.9 EH&S Manual Chapter 6170
200	(6) On-site speed limits and other traffic rules;	WSHPP Attachment 1, Section 1.9 EH&S Manual Chapter 6170
201	(7) Awareness campaigns and incentive programs to encourage safe driving;	WSHPP Attachment 1, Section 1.9 EH&S Manual Chapter 6170
202	(8) Enforcement provisions.	WSHPP Attachment 1, Section 1.9 EH&S Manual Chapter 6170

No.	10 CFR 851 Requirement	TJNAF Worker Safety and Health Protection Program Document Addressing the Rule and Order Requirements
	10. Electrical Safety.	
203	Contractors must implement a comprehensive electrical safety program appropriate for the activities at their site. This program must meet the applicable electrical safety codes and standards referenced in § 851.23.	WSHPP Attachment 1, Section 1.10 EH&S Manual 6210, 6220, 6230, 6240
	11. Nanotechnology Safety	
204	Currently there is no requirement within the Rule, but this section is reserved in anticipation of a future addition of requirements.	None required.
	12. Workplace Violence Prevention	
205	Currently there is no requirement within the Rule, but this section is reserved in anticipation of a future addition of requirements.	None required