

**SALT WASTE PROCESSING FACILITY**

**10 CFR 851 WORKER SAFETY AND  
HEALTH PROGRAM**

**Contract No. DE-AC09-02SR22210  
Phase II**

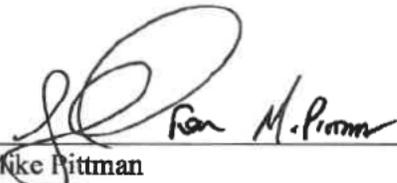
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## SUMMARY OF CHANGES

Revision No.	Date	Description of Change
0	02/01/2007	Initial Issuance
1	03/18/2008	Revise per DMR-0150, annual update.
2	09/18/2008	Revise per DMR 0488, updating references to reflect the Construction Safety Manual.
3	03/27/2009	Revised per DMR 0722 for annual update and reflect change referenced safety procedures versus safety Instructions.
4	03/10/2010	Revised per DMR-1264, Clean up minor reference citations and abbreviations prior to sending to DOE as annual update.
5	07/26/2010	Revised per DMR-1402, to incorporate DOE comments related to incorrect reference section number and wording clarifications.
6	03/29/2011	Revised per DMR 1673 for annual update and Improvement.
7	09/15/2011	Revised per DMR-1806, to incorporate DOE comments related to changing document name from Plan to Program and add sections for fire protection and pressure safety.
8	11/12/2012	Revised per DMR-2350, to incorporate DOE comments related to including reference to ICD-08, location of laser safety controls, change "safety devices" to "pressure relief devices".
9	11/08/2013	Revise per DMR-2649, annual update.
10	10/20/2014	Revise per DMR-2936, annual update.
11	01/07/2016	Revise per DMR-3310, to address transition from Construction to Testing.
12	05/02/2016	Revise per DMR-3398, to address DOE comments related clarification on worker participation in JHA's and the construction designated representative.
13	08/02/2017	Revise per DMR-3748, to address chemical testing and operations.
14	10/17/2018	Revise per DMR-4745, update to reflect revisions to 10 CFR 851 regulations. In addition to addressing DOE Comments, Appendix B has been added.
15	01/02/2020	Revise per DMR-5525, update Emergency Response procedure discussion and NFPA 70E implementation update drive the revision. Also updated IH summary.

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**LIST OF ACRONYMS AND ABBREVIATIONS**

AC	Alternating Current
ACGIH	American Conference of Governmental Industrial Hygienists
ALARA	As Low As Reasonably Achievable
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
ASSE	American Society of Safety Engineers
CFR	Code of Federal Regulations
DC	Direct Current
DEAR	U.S. Department of Energy Acquisition Regulation
DOE	U.S. Department of Energy
ESH	Environmental, Safety, and Health
ICD	Interface Control Document
JHA	Job Hazard Analysis
LSIT	Local Safety Improvement Team
LWO	Liquid Waste Operations
M&O	Management and Operating (Contractor)
MOA	Memorandum of Agreement
NFPA	National Fire Protection Association
NTS	Noncompliance Tracking System
OSHA	Occupational Safety and Health Administration
PCAR	Programmatic Compliance Assessment Report
PJB	Pre-Job Briefing
PM	Project Manual
PP	Project Procedure
SRS	Savannah River Site
SWPF	Salt Waste Processing Facility
UPS	Uninterruptible Power Supply
WSHP	Worker Safety and Health Program

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## **1.0 INTRODUCTION**

### **1.1 Purpose**

The mission of the Salt Waste Processing Facility (SWPF) is to treat the highly radioactive salt bearing liquid wastes from the F- and H-Area Tank Farms at Savannah River Site (SRS). The SWPF will separate and concentrate the cesium, strontium, and trace actinide contaminants from the high-activity Tank Farm salt wastes and produce a decontaminated salt solution suitable for disposal at the Saltstone Facility, and a highly concentrated strontium and actinide sludge for disposal at the Defense Waste Processing Facility.

This document is the Worker Safety and Health Program (WSHP) for the Testing, Commissioning, and Operations phases of the SWPF located at the U.S. Department of Energy's (DOE's) SRS. As used in this document, the WSHP is the worker safety and health program document for achieving compliance with the requirements of 10 Code of Federal Regulations (CFR) Part 851, *Worker Safety and Health Program*<sup>1</sup>. Pursuant to Section 11 of 10 CFR 851<sup>1</sup>, this WSHP and any revision must be submitted to the DOE Savannah River Operations for approval and must contain the methods for implementing the requirements of Subpart C of 10 CFR 851<sup>1</sup>.

## **2.0 WORKER SAFETY AND HEALTH PROGRAM ORGANIZATION**

This WSHP provides, in accordance with Section 11 of 10 CFR 851<sup>1</sup>, a description of the plans and measures for achieving compliance with the requirements of Subpart B, Subpart C, Appendix A, and Appendix B of 10 CFR 851<sup>1</sup>. Descriptions within this document include references to DOE documents or other industry standards that provide requirements. A matrix of each Subpart C and Appendix A of 10 CFR 851<sup>1</sup> requirement, and the plans and measures for achieving compliance with that specific requirement, is contained in Appendix A of this document. Program documents, where applicable, are listed as "Other Implementing Provisions" for the lead requirement in the set; however, they are not repeated for each subsequent sub-requirement within the set.

## **3.0 PURPOSE**

This WSHP and safety program implementing procedures found in Project Manual (PM)-OP-8501, *SWPF Operations Safety Manual*<sup>2</sup>, are essential elements of Parsons' Integrated Safety Management System, as described in PS-01, *SWPF Integrated Safety Management System Policy*<sup>3</sup> and P-EIP-J-00001, *SWPF Integrated Safety Management System Description*<sup>4</sup>. The purpose of this WSHP is to: 1) provide a written framework wherein Parsons and subcontractor staff are provided with a safe and healthful workplace, free of recognized safety hazards that cause or have the potential to cause death or serious physical harm to workers; and 2) ensure that work is performed in accordance with applicable requirements of 10 CFR 851<sup>1</sup> and this WSHP (see Section 10 of 10 CFR 851<sup>1</sup>). This Program describes plans and measures for implementing the applicable requirements of Subpart B, Subpart C, and Appendix A of 10 CFR 851<sup>1</sup>, in accordance with Section 12 of 10 CFR 851<sup>1</sup>. Nothing in this WSHP or other implementing

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documents shall be construed as limiting actions that may be necessary to protect worker safety and health.

In the event a compliance order is issued by the Secretary pursuant to Section 4 of 10 CFR 851<sup>1</sup>, Parsons will comply with requirements found within the order. Parsons, on a case by case basis, may follow actions allowed in Section 4 of 10 CFR 851<sup>1</sup> for rescinding the order or modification of requirements.

#### **4.0 APPLICABILITY**

This WSHP is applicable to the SWPF Testing, Commissioning, and Operations activities.

For purposes of this document, Testing, Commissioning, and Operations activities performed by Parsons and its subcontractors at SRS J-Area include, but are not limited to, the following:

- Receipt and warehousing of materials and equipment;
- Component and system testing using water and air;
- Maintenance and asset preservation;
- Work conducted by construction forces for “turnback” or punchlist correction;
- Non-destructive examination of structures, systems, and components;
- Turnover and Acceptance of components and systems from the Commissioning To Operations staff;
- Cold chemical operations;
- Radioactive waste operations; and
- Demobilization of construction and testing activities.

Regardless of the performer (Parsons or its subcontractors), all activities will be covered by this WSHP. Activities are conducted in accordance with documented safety procedures, testing procedures, operating procedures, and work packages/instructions. Parsons is solely responsible for work conducted in J-Area at SRS. Coordination with the SRS Liquid Waste Operations (LWO) Contractor as Parsons performs work in S-Area or other SRS areas, is addressed in Interface Control Documents (ICDs) that have been specifically written to cover work activities that involve the LWO Contractor, other site contractors, and Parsons. ICDs are covered in Section 5.1. If work activities are identified that have not been covered by an ICD, one will be written or revised to include the identified activities.

#### **5.0 851 SUBPART B PROGRAM REQUIREMENTS**

##### **5.1 Coordination With Other Contractors [(851.11(a)(2)(ii)]**

Coordination of safety requirements between Parsons and other SRS Contractors is addressed by SPD-SWPF-0196, *Memorandum of Agreement Regarding SRS Interfaces Pertaining to the Salt*

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*Waste Processing Facility Design, Construction, and Operations in J-Area*<sup>5</sup>, a Memorandum of Agreement (MOA) executed with DOE, other SRS Contractors, and Parsons. Specific agreements are found in ICDs cited within the MOA. The ICD process ensures that there are clear roles, responsibilities, and procedures to ensure the safety and health of workers. ICDs having primary pertinence to 10 CFR 851<sup>1</sup> requirements are:

- V-ESR-J-00008, *SWPF Electrical Power Distribution Interface Control Document (ICD-08)*<sup>6</sup>,
- V-ESR-J-00012, *SWPF Emergency Response Interface Control Document (ICD-12)*<sup>7</sup>,
- V-ESR-J-00018, *SWPF Work Controls Interface Control Document (ICD-18)*<sup>8</sup>,
- V-ESR-J-00019, *SWPF Permitting and Monitoring Requirement Interface Control Document (ICD-19)*<sup>9</sup>, and
- V-ESR-J-00020, *SWPF Training Interface Control Document (ICD-20)*<sup>10</sup>.

Parsons' subcontractor(s) activities are covered by contracts, which include applicable and appropriate safety and health requirement flow down in accordance with U.S. Department of Energy Acquisition Regulation (DEAR) 970.5204-2, *Laws, Regulations, and DOE Directives*<sup>11</sup> and DEAR 970-5223-1, *Integration of environment, safety, and health into work planning and execution*<sup>12</sup>.

Subcontractors work under Parsons' requirements found in this WSHP, and are required to work in accordance with Parsons' safety programs. In unique cases where the subcontractor has specific expertise not specifically covered by Parsons' procedures, the subcontractor will be permitted to work under their own procedures after review and endorsement by applicable Line Manager and Environmental, Safety, and Health (ESH) management provided that the procedures comply with the overall requirements of this WSHP (i.e., cannot reduce requirements). As a minimum, this endorsement will be provided to the Technical Representative in writing.

## **5.2 Program Updates [851.11(c)]**

Parsons will review this document at least annually and/or when significant changes in programs/activities occur. Updates to this WSHP will be submitted to DOE for review and approval when any change or addition to the WSHP is made. If no changes are judged to require updating of this WSHP, Parsons will submit a letter to DOE stating a review has been completed and that no changes were deemed necessary. This letter will be submitted on an annual basis.

## **5.3 Labor Organizations [851.11(d)]**

Labor organizations employed by Parsons or non-union labor forces employed by Parsons will be provided timely notice (i.e., 30 days) of updates to the WSHP and upon request. Parsons will bargain concerning implementation of this part consistent with the Federal labor laws.

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## **6.0 851 SUBPART C PROGRAM REQUIREMENTS**

### **6.1 Management Responsibilities and Worker Rights and Responsibilities**

#### **6.1.1 Policy, Goals, and Objectives [851.20(a)(1)]**

Parsons has an established written policy for safety in PS-01<sup>3</sup> which states: “Line Management is directly responsible for protection of the public, workers, and the environment”. Further, V-IM-J-00001, *SWPF Organization, Roles, and Responsibilities Manual*<sup>13</sup> requires line management responsibilities for safety, particularly within their areas of responsibility and their staff.

Parsons has established a safety-conscious work environment and has a safety goal of Zero Lost Workday Cases. Safety objectives and measurable goals for the objectives are established in an Integrated Safety Management System Declaration of Readiness. This document is developed jointly with DOE and is revised annually to ensure that objectives stay current with the Project.

#### **6.1.2 Qualified Staff [851.20(a)(2)]**

Qualified staff is ensured through staffing criteria established in Personnel Position Descriptions, which provides minimum education and experience requirements for the ESH Department staff, including the safety professionals having requisite industrial hygiene (IH) and safety experience. During Testing, Commissioning, and Operations, the ESH Manager is responsible to direct and develop the safety program; other ESH staff are actively engaged and routinely provide professional safety assistance.

Also found within V-IM-J-00001<sup>13</sup> are clear lines of authority and responsibilities for ESH management safety professionals. At the next level down, all Project personnel are held accountable for compliance with safety requirements (see PS-01<sup>3</sup>).

Staff qualification and training is further defined in PL-TR-1801, *SWPF Personnel Selection, Training, and Qualification Plan*<sup>14</sup>. PL-TR-1807, *SWPF Safety/Industrial Hygiene Training Program Description*<sup>15</sup>, expands on the requirements specifically related to the ESH staff.

Testing, Commissioning, and Operations programs involve workers in the development of the worker safety and health program goals, objectives, and performance measures, as well as in the identification and control of hazards in the workplace. The implementing safety procedures are developed for compliance with 29 CFR 1910, *Occupational Safety and Health Standards*<sup>16</sup> and other Occupational Safety and Health Administration (OSHA) regulations as applicable. Specifically, PM-OP-8501<sup>2</sup> (PP-SH-4407, *Job Hazards Analysis*) focuses on hazard identification and controls with input of subject matter experts. Additionally, a Local Safety Improvement Team (LSIT) is functioning with representatives from various segments of the organization to promote a positive safety culture and overall safety conscious work environment.

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### **6.1.3 Accountability [851.20(a)(3)]**

V-IM-J-00001<sup>13</sup> clearly delineates management responsibility for safety from the Project Manager down through to the lowest tier Manager covered by the document. Further, P-EIP-J-00001<sup>4</sup> and PS-01<sup>3</sup> require line management be responsible for safety, as well as all Project staff.

### **6.1.4 Employee Involvement [851.20(a)(4) & (b)(5)]**

Safety is a core value for Parsons Corporation and Parsons personnel are assessed on their demonstrated safety performance and awareness. Failure to meet safety expectations is addressed through the employee development and disciplinary processes, and includes involuntary separation if warranted. Workers and their elected representatives are given opportunities to provide input to the Project's safety and health program through several avenues:

- Job Hazards Analysis (JHA) process, which involves subject matter experts, Operations/Maintenance staff and other affected workers;
- Preparatory meetings with management, job supervisors, safety staff, operators/mechanics, and subcontractor representatives(as applicable);
- The pre-job briefing (PJB) process involves workers at the task-specific level to identify and mitigate hazards associated with their specific work scope;
- The LSIT;
- Safety tailgate/toolbox meetings; and
- Safety campaigns and awards.

In accordance with Section 20(b)(5) of 10 CFR 851<sup>1</sup>, Workers or their authorized representative(s) are allowed to accompany the Director (or other designated DOE Representative) during any physical inspection of the workplace. The Director or representative may consult with any worker of their choice on matters of safety and health.

### **6.1.5 Access to Information [851.20(a)(5) & (b)(2), (3), (4), (5), (6)]**

Parsons provides access to information relevant to the worker safety and health program and worker rights. Relevant information consists of, but is not limited to:

- This WSHP,
- The procedures, permits, JHA's, and PJB's associated with the work, and
- Safety bulletin boards that include relevant DOE worker safety and health postings describing worker rights and responsibilities, as well as the DOE Worker Protection Poster.

Minutes of LSIT Meetings are available on safety bulletin boards (physical and/or electronic). Bulletin boards are provided at several key locations around the site where workers have access

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to them at the start of shift, during breaks, and at the end of shift. The LSIT electronic information can be accessed via links on the SWPF Project Collaboration Portal ESH Homepage.

Limited information on Recordkeeping Logs involved with reporting safety statistics for the Project (e.g., OSHA 300 forms are made available upon written request. The OSHA Summary (Form 300-A or equivalent) are posted on the safety bulletin board from February 1 to April 30. Other safety procedures contained in PM-OP-8501<sup>2</sup> (PP-SH-4412, *Environmental Safety, and Health Reporting*, and PP-SH-4450, *First Aid, Medical Care, and Emergency Services*) provide for Project reporting of safety incidents and first aid.

Safety Data Sheets (or Material Safety Data Sheets) are available for worker review for chemicals stored or used on the Project. Specific DOE safety and health publications are made available upon written request from any employee.

IH monitoring activities may be observed by potentially impacted workers. Results are communicated to potentially impacted and monitored workers, and be available upon written request from any monitored individual or potentially impacted worker or his/her representative. If monitoring results indicate a worker over-exposure, the worker will be notified verbally and in writing. Other written or verbal notification or results for specific chemicals are provided as specified by the applicable regulation.

Any worker or worker representative requesting results of any inspection or accident investigation in writing to the Project, Plant, or Safety Manager shall be provided hard copies of the requested information within 30 days of receipt of the request.

#### **6.1.6 Reporting of Events and Hazards [851.20(a)(6),(7) & (b)(7)]**

Workers are procedurally required to report job-related injuries, illness, and incidents/hazards (PM-OP-8501<sup>2</sup>). Policy, procedures, and management expectations are that personnel feel free and are willing to report injuries without the fear of reprisal. Administrative safety procedures (PM-OP-8501<sup>2</sup>) also directs employees to report to management or safety personnel conditions that present a hazard to the workforce or a situation that resulted in an unsafe event.

Employees are encouraged in PP-AS-1203, *Corrective Action Program*<sup>17</sup>, to make suggestions that may improve workplace safety or mitigate a hazard. Workers are encouraged in PP-TM-1408, *Employee Concerns Program*<sup>17</sup>, to discuss safety concerns with their management or the safety personnel to ensure that their concern is heard, evaluated, and acted upon, when appropriate. This procedure also provides alternate avenues for filing and finding resolution of a concern through the Project's Differing Professional Opinions process and/or the Project's Employee Concern Program. Employee concerns can also be filed with the DOE under DOE-SRS or DOE-Headquarters Employee Concerns Programs established under DOE O 442.1A, *Department of Energy Employee Concerns Program*<sup>18</sup>. Workers that believe they were the subject of retaliation by their employer for raising a safety concern (or other protected actions) can file a complaint under 10 CFR 708, *DOE Contractor Employee Protection Program*<sup>19</sup>. DOE suggests that employees first seek to resolve concerns with their first-line supervisors or use an

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established company concern or complaint resolution system before elevating the concern first to the DOE-SRS and then to DOE-Headquarters employee concern program personnel.

Postings concerning the availability of all these avenues are provided on bulletin boards at various locations throughout the workplace. In addition, Parsons Project Policy PS-10, *SWPF Project Manager Policy on Safety Conscious Work Environment*<sup>20</sup>, clearly establishes that no form of retaliation or discrimination by managers or coworkers will be tolerated against employees who raise concerns.

Workers also have available members of the LSIT with whom they can discuss concerns. The functions of the Committee are covered under PM-OP-8501<sup>2</sup> (PP-SH-4408, *Local Safety Improvement Teams*).

Parsons management is required to respond to employee suggestions, concerns, and reporting of hazardous condition or near misses in a timely manner, consistent with the safety impact of the item identified.

#### **6.1.7 Regular Communications [851.20(a)(8)]**

Parsons ensures regular communication with workers about workplace safety and health matters through the use of weekly safety meetings and daily PJB reviews of task-specific activities. Other avenues for communicating safety and health matters are through discussion with supervisors, other site managers, LSIT members, bulletin board postings, and applicable lessons learned, as discussed in PJB meetings or weekly safety meetings.

#### **6.1.8 Stop Work Authority [851.20(a)(9) & (b)(8),(9)]**

Parsons provides workers the right to stop work or decline to perform work that is not safe to perform. This policy is stated in PS-01<sup>3</sup>, PP-TM-1408<sup>17</sup>, and in PM-OP-8501<sup>2</sup> (PP-SH-4411, *Time Out, Stand Downs, and DOE Directed Stop Work Orders*).

This policy applies to work where there is 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. This authority must be exercised in a justifiable and responsible manner and in accordance with written procedures. Time outs can range from simple momentary work pauses to correct items within the immediate workers controls to more significant items requiring management approval to resume activities.

#### **6.1.9 Inform Workers of Rights [851.20(a)(10)]**

All employees with unescorted access to SWPF attend Orientation Training (i.e., SWPGGR03, *Facility Specific GET*<sup>21</sup>, and SWPSGR01, *Basic Safety*<sup>22</sup>) that provides Parsons' expectations for safety and safe work behavior, and their rights related to such topics as access to information, a safe work environment, and freedom to raise safety issues/questions. Workers are required to

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follow safety rules. Additionally, safety postings are provided on bulletin boards found in break areas and includes the DOE Worker Protection Poster.

Other means of making workers aware and informed of their rights and responsibilities is through the use of specific hazard warnings posted in accordance with applicable OSHA standards found in 29 CFR 1910<sup>16</sup>. Hazard warnings may take the form of posted signs used in conjunction with barricades, ropes, ribbons, or just posted signs. A few examples of specific hazards that must be posted and guarded are excavations, confined spaces, holes in walking working surfaces, wall openings, and noise areas. PM-OP-8501<sup>2</sup> (PP-SH-4413, *Barricades, Tags, Signs and Color Codes*) governs posting of hazard warnings. PM-OP-8501<sup>2</sup> (PP-SH-4460, *Hazard Communication*) is also utilized to inform workers of chemical hazards.

#### **6.1.10 Participate on Official Time [851.20(b)(1)]**

Workers have the right to participate in activities described in this WSHP on official time.

### **6.2 Hazard Identification and Assessment (851.21)**

#### **6.2.1 Identify and Assess Risks [851.21(a)]**

Parsons routinely assesses the workplace for existing and potential hazards and assesses the risk of associated worker injury and illness. PM-OP-8501<sup>2</sup> (PP-SH-4407), addresses actions to be taken in assessing common industrial workplace hazards. Other safety procedures found in PM-OP-8501<sup>2</sup> require specific assessment of the workplace risks (i.e., walking/working surfaces, hot work, etc.) and anticipated scope of work to ensure the workplace is free of hazards that may impact workers or exacerbate already existing hazards.

#### **6.2.2 Assess Workers Exposures [851.21(a)(1) & (c)]**

Minimization of worker exposure to environmental or physical hazards during design was accomplished by the performance of hazards and operability reviews, IH and chemical safety reviews, and “As Low As Reasonably Achievable” (ALARA) radiation protection reviews.

Assessing worker exposure to hazards is accomplished through applicable workplace monitoring for hazards as identified in PM-OP-8501<sup>2</sup> and includes such items as noise, chemical vapors, low oxygen atmospheres, silica and nuisance dust. Radiological hazards are addressed under 10 CFR 835, *Occupational Radiation Protection*<sup>23</sup>, and the associated SWPF implementing procedures.

Worker exposures and workplace hazards are assessed initially to obtain baseline information, and then as often as necessary to ensure compliance with the pertinent monitoring requirement.

#### **6.2.3 Document and Record Hazard Assessments [851.21(a)(2) & (3)]**

Hazards analysis are normally performed and documented in the form of JHAs. Subcontractors/vendors are required to comply with Parsons’ procedures. Additional hazards assessments are performed by safety professionals, using nationally recognized methods and

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credentialed laboratories. Monitoring is performed and documented as identified in PM-OP-8501<sup>2</sup> on an as-needed basis for work site hazards such as noise, heat stress, and airborne contaminants/vapors, flammable gases, oxygen deficient conditions, and others.

Sampling information and results are recorded and retained in accordance with DOE and OSHA requirements. Monitoring records contain information on:

- Workers monitored;
- Sampling method and duration;
- Control measures in place, such as personal protective equipment or other mechanical measures;
- Job task and location; and
- Any additional factors relevant to the sampling.

Potentially impacted workers and management are verbally informed of the monitoring results as soon as practical after the monitoring period. Timeliness depends on time required for analyses, review of the analytical results, and an assessment of the worker impact by an Industrial Hygienist or Safety Manager. Written assessment results are provided to each worker that exceeds a regulatory limit or upon written request by the worker or designated representative.

#### **6.2.4 Analyze Designs for Potential Hazards [851.21(a)(4)]**

During the Design phase of the Project, safety professionals were involved in hazards analysis to ensure that the facility was designed in accordance with national standards for safety and within regulatory requirements found in 10 CFR 851<sup>1</sup>, 29 CFR 1910<sup>16</sup>, and 10 CFR 835<sup>23</sup>. Expertise in the areas of IH (Certified Industrial Hygienist), industrial safety (Certified Safety Professional), radiation protection (Certified Health Physicist), facility Commissioning and Operations, and process safety were brought to bear on hazards reviews. Multiple hazards reviews were performed during design and included hazards and operability, IH and chemical safety, and ALARA radiation protection reviews.

Future facility modifications determined necessary through the testing process will be reviewed for the potential to create adverse worker safety impacts. These reviews include permanent and temporary modifications as outlined in PP-EN-5001, *Design Control*<sup>17</sup>, and PP-EN-5046, *Temporary Modifications*<sup>17</sup>.

#### **6.2.5 Evaluate Operations, Procedures, and Facilities [851.21(a)(5)]**

During Design, the Project established a Commissioning team to review the facility design from the view of operability and maintainability. The team goal was to ensure that the facility could be operated safely and with a high on-line performance factor. Also during Design, the team began identifying procedural and training requirements for plant systems and components. During the

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testing phase, these components and systems are evaluated to verify their ability to meet the design functions as well as their ability to be safely operated and maintained.

Testing procedures and maintenance work processes have been developed to support the facility during the testing phase. System Operational Test procedures were developed in accordance with DP-CM-8012, *Additional Guidance on Test Procedure Development*, including review and approval by the Joint Test Group per PP-CM-8107, *Joint Test Group*<sup>17</sup>. Maintenance work processes are governed by PL-MN-8704, *Nuclear Maintenance Management Program Plan*<sup>24</sup>. Operations procedures are developed, reviewed, and approved in accordance with procedure PP-CONOPS-17.1, *Procedure Administration*<sup>17</sup>.

Requirements for routine workplace evaluation by management, “walk-arounds”, are included in assessment procedures to ensure adequate housekeeping, safe facilities, and safe performance by personnel. Expectations for workers to routinely inspect their work space, equipment, and tools for hazards are established by management in PM-OP-8501<sup>2</sup> (PP-SH-4409, *Plant Area Walkdowns*). Supplemental inspections by safety professionals will also be required.

#### **6.2.6 Job Activity-Level Hazard Analysis [851.21(a)(6) & (8)]**

JHAs are conducted for all Testing and Operations activities in accordance with PM-OP-8501<sup>2</sup> (PP-SH-4407). These JHAs are initially conducted at the highest level for the work package by Parsons. If the work package is to be subcontracted, the subcontractor awarded the work is contractually required to perform a JHA and submit the JHA to Parsons for review and acceptance.

Parsons’ expectation is that management, supervisors, safety professionals, other subject matter experts, and affected workers provide input into the JHA. Principle elements of the JHA are: activity to be analyzed, breakdown of the activity to its component tasks, identification of hazards associated with each task, identification of hazard mitigation techniques or controls necessary to protect workers against identified hazards and, when applicable, identification of potential hazards to bystanders and related controls.

Subcontractors are required to perform hazards assessments for their specific contracted scope of work.

Prior to starting daily activities, a PJB is held that addresses the task hazards associated with each work group’s scope of work. The supervisor and all workers performing the scope of work provide input to the PJB. This PJB has as its goal to communicate hazards at the lowest work level and foster an understanding of the mitigation or control of the hazards to ensure worker safety. The PJB also reviews hazards that may result from other close proximity work performed by other work groups or contractors. This may include work being conducted overhead, running pumps and motors, noise-generating activities, electrical, compressed gases, or other hazards.

During the conduct of work, workers and management will monitor workplaces for hazardous conditions that are generated by the work activity.

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### **6.2.7 Review Safety and Health Experience [851.21(a)(7)]**

Reviews of safety and health experience are performed on the SWPF Project. Safety data and information regarding injuries, incidents, and accidents is collected and the information tracked within the Parsons' Industry Safe Incident Reporting database and, in a few cases, the Performance Improvement Tracking System. When applicable, corrective actions are captured with these reports.

Reviews of the injury and illness experience data are periodically performed to determine if there are prevalent types of injuries or accidents and their causes, predictive trends that may forecast a future event or that show degrading of the safety program, or other indicators that may be of use in adjusting the safety program. Leading-edge indicators, trending of first aid information, as well as the detailed Occurrence Reporting and Processing System quarterly performance analysis are other examples of information used to help assess the health of the safety program.

### **6.2.8 Hazard Prevention and Abatement (851.22)**

As previously discussed in Section 6.2.4, several specific formal hazards review processes have been and will be conducted for design changes, as appropriate, to ensure that hazards are engineered from the design. These collaborative efforts by personnel from various disciplines have worked with the Design staff to minimize hazards from the facility layout and site are described.

Parsons has implemented processes to ensure that identified and potential hazards are prevented or abated in a timely manner. Hazards associated with a work task will be identified and abated in accordance with PM-OP-8501<sup>2</sup> (PP-SH-4407).

Identified hazards will be evaluated and mitigation prioritized in accordance with risk to workers. For those hazards where complete abatement cannot be expeditiously mitigated, interim protective measures will be implemented, pending final abatement. In those instances where the hazard cannot be controlled with interim measures, the work will not be performed until acceptable protective measures are implemented. This is in accordance with PM-OP-8501<sup>2</sup>.

Other applicable safety and health requirements are described in S-RCP-J-00001, *SWPF Standards/Requirements Identification Document*<sup>25</sup>.

When implementing worker safety and health standards or controls, a graded approach will be applied that is protective of workers. As general guidance, the following selection criteria will be applied in descending order of importance:

- Elimination or substitution of the hazard, where appropriate,
  - Passive engineered controls,
  - Active engineered controls,
  - Administrative controls, and
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- Personal protective equipment.

This graded approach will also use as a fundamental requirement the ALARA philosophy for exposure to industrial chemicals and industrial hazards.

When procuring equipment, products, and services, Parsons will consider hazards associated with the procurement, and will mitigate hazards in accordance with the preceding selection criteria.

### **6.2.9 Safety and Health Standards (851.23)**

Parsons ensures compliance with applicable safety and health requirements and standards for Testing, Commissioning, and Operations, including standards cited in Section 23 of 10 CFR 851<sup>1</sup> through several procedural methods. Some of these are PP-AS-1200, *SWPF S/RID Maintenance and Compliance*<sup>17</sup>, PM-OP-8501<sup>2</sup> (PP-SH-4470, *Working On or Near Energized Electrical Equipment*), JHAs, and other safety procedures (PM-OP-8501<sup>2</sup>) developed for compliance with applicable sections of 29 CFR 1910<sup>16</sup>.

### **6.2.10 Functional Areas (851.24)**

Parsons has a structured approach to worker safety and health during SWPF Testing, Commissioning, and Operations. Specific functional areas addressed in PM-OP-8501<sup>2</sup> include generic industrial safety, pressure safety, fire protection, IH, motor vehicle safety, and electrical safety. The extent to which each of these functional areas is applicable to Testing and Operations is further defined in this document. Additionally, occupational medicine is addressed in PM-OP-8501<sup>2</sup> (PP-SH-4451, *Occupational Medicine and Fitness for Duty*) (see Section 7.5).

### **6.2.11 Training and Information (851.25)**

Parsons will develop and implement a worker safety and health training and information program to ensure that workers exposed or potentially exposed to hazards are provided with the training and information on the hazard(s) necessary to perform their duties in a safe and healthful manner. For all workers, this training will include:

- General Employee Training,
- SWPF Site Safety Training, and
- Emergency response actions.

SWPF-specific Safety training will be presented to those workers who will be exposed or potentially exposed to the hazard. Examples of this training include, but are not limited to:

- Confined Spaces,
  - Fall Protection,
  - Hazard Communication,
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- Scaffolds,
- Personal Protective Equipment,
- Lock Out/Tag Out,
- Fire watch for Hot Work,
- Handling of toxic materials, and
- Respiratory Protection.

Training will precede work assignments to ensure worker's understanding of hazards and safety requirements.

Training will be revised and/or repeated in any area where: 1) workplace conditions or safety and health information have changed, or 2) observation of workers shows a need to retrain, or 3) refresher training is mandated by regulations.

Parsons will also provide training or information for the Safety staff members, as necessary to maintain their competence or certifications.

#### **6.2.12 Recordkeeping and Reporting (851.26)**

Parsons will

document and retain records pertinent to the identification of:

- Hazard inventories,
- Hazard assessments,
- Worker exposure monitoring, and
- Worker exposure controls.

Parsons will document and retain records pertinent to worker (Parsons or subcontractors) injuries and illnesses that result from all workplace hazards. Parsons will ensure that pertinent reports are prepared and presented consistent with DOE O 231.1B Chg 1, *Environmental Safety and Health Reporting*<sup>26</sup>, and OSHA reporting requirements found in Sections 4 through 11, 29 through 33, and 46 of 29 CFR 1904, *Recording and Reporting Occupational Injuries and Illnesses*<sup>27</sup>, to include. This also includes Parsons' ensuring subcontractors working at SRS follow these reporting criteria.

Parsons will not knowingly destroy or conceal any information concerning noncompliance or potential noncompliance with the requirements of 10 CFR 851<sup>1</sup>.

Parsons will ensure that all accidents, injuries, and illnesses resulting from workplace hazards or that occur at SWPF are investigated. Level of investigation and format of reports will be consistent with PM-OP-8501<sup>2</sup> (PP-SH-4412) and PP-CONOPS-07.4, *Investigations*<sup>17</sup>. Accident

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scenes will be isolated and preserved, to the extent practical, until no longer needed by the accident investigation team.

Parsons will, as part of accident investigations, analyze related data for trends and lessons learned.

### **6.2.13 Reference Sources (851.27)**

Parsons will comply with applicable reference sources listed in Section 27 of 10 CFR 851<sup>1</sup>. These are primarily identified during the development of specifications in accordance with PP-EN-5003, *Specifications*<sup>17</sup> and requisitions per PP-PR-6012, *Preparation and Change Management of Requisitions*<sup>17</sup>.

The 2018 revision to 10 CFR 851<sup>1</sup> focused heavily on updating the listed codes to a more current revision number. SWPF is currently following the newer revision of the following codes:

- American Conference of Governmental Industrial Hygienists (ACGIH) - 2016, *Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*<sup>28</sup>,
- American National Standards Institute (ANSI) Z49.1 – 2012, *American National Standard Safety in Welding, Cutting and Allied Processes*<sup>29</sup> (sections 4.3 and E4.3 only),
- ANSI/American Society of Safety Engineers (ASSE) Z88.2 – 2015, *American National Standard Practices for Respiratory Protection*<sup>30</sup>, and
- ANSI Z136.1 – 2014, *American National Standard for Safe Use of Lasers*<sup>31</sup>.

Numerous codes updated in the 2018 revision to 10 CFR 851<sup>1</sup> are design and construction codes. SWPF (including NGS Cold Chemical Feed) will maintain the code of record as outlined in P-DB-J-00002, *SWPF Design Criteria Database*<sup>32</sup> and P-DB-J-00005, *Next Generation Solvent Deployment at Salt Waste Processing Facility Design Criteria Database*<sup>33</sup>, and this WSHP. In the event SWPF were to begin a major modification, the new design codes will be evaluated for use.

National Fire Protection Association (NFPA) 70E-2015, *Standard for Electrical Safety in the Workplace*<sup>34</sup>, was not implemented by the January 2019 date due to the extensive administrative changes in calculations, procedures, training, and equipment labeling required. SWPF is currently working toward implementation of NFPA 70E-2018, *Standard for Electrical Safety in the Workplace*<sup>35</sup>. See Section 7.7 for additional details.

### **6.2.14 Variances (851.31)**

Parsons will provide a written application to the Cognizant Secretarial Officer for any variance from the safety and health standards found in 10 CFR 851<sup>1</sup>. The application shall contain the applicable information required in Sections 31(c) and 31(d) of 10 CFR 851<sup>1</sup>.

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### **6.2.15 Reporting and Tracking Noncompliance Appendix B IX(b)(5)(c)**

Parsons shall use the voluntary Noncompliance Tracking System (NTS) for reporting noncompliance with 10 CFR 851<sup>1</sup> regulations. PP-AS-1204, *Price-Anderson Amendments Act and Worker Safety and Health Program Non-compliance Evaluation and Reporting*<sup>17</sup>, governs the activities associated with identifying items that require input to the NTS. Items that fall below the thresholds for NTS reporting are tracked in accordance with PP-AS-1203<sup>17</sup>.

## **7.0 851 APPENDIX A PROGRAM REQUIREMENTS**

### **7.1 Construction Safety**

Construction is a support organization to the SWPF during Testing, Commissioning, and Operations. Numerous construction activities are expected to continue including implementation of design changes, temporary modifications, and even new construction activities. All construction work will be released through the Facility Work Authorization and Work Control processes. Most new activities will be performed under PM-OP-8501<sup>2</sup> safety procedures; however, several legacy construction work packages and JHA's will remain in accordance with PM-SH-4301, *SWPF Construction Safety Manual*<sup>36</sup> (PP-SH-4364, *Job Hazard Analysis [Construction]*) pending transition.

#### **7.1.1 Designated Representative**

Parsons will have a designated representative at the SWPF each shift when work is being performed or staffing is required by the Technical Safety Requirements (TSRs). Excluded from this requirement are weekends where no work is performed, weather delays, or other periods of work inactivity when staffing is not required by the TSRs. The designated representative will be knowledgeable of the Project's hazards and have full authority to act on behalf of Parsons. The designated representative will make frequent and regular inspections of the facility to identify and correct any instances of noncompliance with Project safety and health requirements.

Workers will be instructed to report to their work supervisor hazards not previously identified or evaluated. If the work supervisor does not take appropriate action, workers will be instructed to raise the issue to the designated representative.

If, in the opinion of the work supervisor or designated representative, immediate corrective action is not possible or the hazard falls outside the Project's scope, work on that specific activity and/or work area will be halted (declare a "Safety Time Out") until appropriate protective measures are established. Use of a Time Out or a Safety Stand Down is directed in PM-OP-8501<sup>2</sup> (PP-SH-4411).

Declaration of a Safety Time Out involves notifying affected workers, posting appropriate warning signs, and implementing interim control measures. Work activities for which a Safety Time Out has been declared will be identified to the responsible SWPF Line Manager, and ESH Manager or their designee as quickly as possible.

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### 7.1.2 Written Health and Safety Plan

S-CIP-J-00005, *SWPF Construction Health and Safety Plan*<sup>37</sup>, identifies the safety programs and procedures that will be utilized for construction activities during the Testing and Operations phases of the project. This plan identifies PM-OP-8501<sup>2</sup> and PM-SH-4301<sup>36</sup> as the primary safety manuals. PM-OP-8501<sup>2</sup> is the primary compilation of various safety processes and procedures used to implement the specific requirements of this plan and 10 CFR 851<sup>1</sup>. Specific responsibilities for implementation are specified in PM-OP-8501<sup>2</sup> and V-IM-J-00001<sup>13</sup>. PM-SH-4301<sup>36</sup> identifies those safety programs and procedures unique to Construction activities.

## 7.2 Fire Protection

Fire prevention for the SWPF is based on personnel training, minimization of fixed and transient combustible and flammable materials, and elimination of ignition sources. Fire protection is based on the use of automatic detection and fire suppression systems. Mitigation of fires is performed by the SWPF fire detection and suppression systems that are designed, installed, operated, and maintained in accordance with the applicable requirements of Federal Regulations, NFPA Codes, DOE Orders, and other national codes and standards.

Fire Hazard Analyses (F-FHA-J-00001, *SWPF Project Fire Hazards Analysis*<sup>38</sup>, and F-FHA-J-00002, *SWPF J-Area Warehouse Fire Hazards Analysis*<sup>39</sup>) have been performed to address the overall risk from fires and the systems/programs relied upon to minimize the overall risks from fires. F-PP-J-00001, *SWPF Fire Protection Program Plan*<sup>40</sup>, provides overall direction and guidance to personnel responsible for implementation and control of the fire protection activities performed at the SWPF. Supporting implementing procedures include PP-EN-5038, *Flammable and Combustible Liquids and Gases*<sup>17</sup>, PP-EN-5037, *Fire Prevention Inspections*<sup>17</sup>, PP-EN-5036, *Fire Protection Impairment Control*<sup>17</sup> and PP-EN-5043, *Combustible Load and Ignition Source Control*. Operational rounds (e.g., OPSINSP-SWPF-001, *SWPF J-Area Operations Inspection*<sup>17</sup>) provide guidance for routine fire program inspections. Fire watches will be posted in accordance with PM-OP-8501<sup>2</sup> (PP-SH-4416, *Control of Hot Work*) for special tasks producing flames, sparks, and high heat. Surveillances, testing, inspection, and maintenance of fire related systems are managed through a series of operator rounds, maintenance instructions/work orders, and sub-contracted vendor services.

Appropriate fire protection measures at the SWPF will consist of incipient fire-fighting equipment. Workers are trained to fight an incipient-stage fire, if they feel comfortable to do so. Fire watches will be posted in accordance with PM-OP-8501<sup>2</sup> (PP-SH-4416). Fire patrols are used in conjunction with the fire protection system impairment procedure (PP-EN-5036<sup>17</sup>). Fire-fighting of beyond-incipient fires will be performed under the Site Management and Operating (M&O's) Contractor's fire protection program, as established in the MOA (SPD-SWPF-0196<sup>5</sup>) between Parsons and the Site M&O and in V-ESR-J-00012<sup>7</sup>.

Emergency Operating Procedures and Abnormal Operating Procedures address those emergency response activities that Parsons will perform at the SWPF during Testing, Commissioning, and Operations. The SWPF Annex to SCD-7 and Emergency Preparedness Implementing Procedures

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will be integrated with the SRS emergency response procedures for operational emergencies. Additional response capabilities are provided by the Site M&O as established in the MOA (SPD-SWPF-0196<sup>5</sup>). The emergency response for fire and other conditions is addressed in V-ESR-J-00012<sup>7</sup>, which addresses the responsibilities and coordination of J-Area personnel and emergency response personnel at Savannah River Nuclear Solutions.

During Testing and Operations activities, the design of the SWPF and project personnel activities shall meet applicable DOE Orders and Standards, building codes and NFPA codes and standards outlined in the SWPF Contract (DE-AC09-02SR22210, *Design, Construction, and Commissioning of a Salt Waste Processing Facility [SWPF]*<sup>41</sup>) related to worker safety, including but not limited to:

- DOE O 420.1B, *Facility Safety*<sup>42</sup> (for Contract Line Item Number 5);
- DOE O 420.1C Chg 1, *Facility Safety*<sup>43</sup> (for Contract Line Item Numbers 6 and 7);
- NFPA 101, *Life Safety Code*<sup>44</sup>;
- NFPA 10, *Standards for Portable Fire Extinguishers*<sup>45</sup>;
- NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*<sup>46</sup>;
- NFPA 30, *Flammable and Combustible Liquids Code*<sup>47</sup>;
- NFPA 72, *National Fire Alarm Code*<sup>48</sup>;
- NFPA 80, *Standard for Fire Doors and Fire Windows*<sup>49</sup>;
- NFPA 801, *Standard for Fire Protection for Facilities Handling Radioactive Materials*<sup>50</sup> (Operations only); and
- DOE-STD-1066-1999, *Fire Protection Design Criteria*<sup>51</sup>.

### **7.3 Pressure Safety**

During the design of the SWPF, design engineers ensured that the applicable American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code sections were followed for pressure systems and components. Through the proceduralized procurement processes Project engineers ensured applicable ASME code sections were cited in procurement documents. Fabricators prepared code calculations and submitted them to the Project buyers for approval. Applicable design engineering staff reviewed and approved the calculations prior to release for fabrication. When applicable, vessels were required to be code stamped, which invokes review by an independent ASME appointed Authorized Inspector. The design, fabrication, inspection and testing of piping systems and components satisfies the requirements of ASME B31.3, *Process Piping*<sup>52</sup>.

Through the Quality Assurance processes, Project Quality Assurance staff are assigned the responsibility to ensure fabrication vendors manufacture and test pressure components are in accordance with procurement specifications and code requirements. For on-site fabrication of

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procurement level 2 pressure components the Project's Quality Control personnel ensure fabrication is done in accordance with specified standards and codes.

P-PLN-J-0137, *SWPF Pressure Safety Plan*<sup>53</sup>, provide overarching guidelines and principles for the Operations, Commissioning and Testing Phases requiring inspection and operation of pressurized systems and components. This includes pressure vessels, water heaters, piping systems, overpressure protection safety devices, de-aerators, and compressed gas equipment. Specific requirements will be identified through implementing procedures or department instructions.

The code of record for design and construction of SWPF pressure safety systems is outlined in P-DB-J-00002<sup>32</sup>, and P-DB-J-00005, *Next Generation Solvent Deployment at Salt Waste Processing Facility Design Criteria Database*<sup>54</sup>. Any new major modifications will be evaluated for compliance relative to the code of record and the new versions of the industry codes invoked by the current revision to 10 CFR 851<sup>1</sup>.

#### **7.4 Industrial Hygiene**

The SWPF IH Program serves to maintain employee exposures to chemical, physical, and biological hazards within safe levels following procedures governing the applicable IH regulations. The SWPF IH Program is implemented in accordance with PL-SH-4300, *SWPF Industrial Hygiene Program Plan*<sup>55</sup>. The IH Program implements the six (6) elements required in Appendix A.6 of 10 CFR 851<sup>1</sup>. The IH Program Plan consists of policies and procedures to mitigate the risks from identified or potential carcinogens and workplace monitoring typically for noise, silica dust, and other potential airborne hazards. The IH Program is staffed with professionally and technically qualified industrial hygienists and safety professionals that manage and implement the Program.

The IH Program coordinates with planning and design personnel as well as cognizant occupational medical, environmental, health physics, and work planning professionals to anticipate and control health hazards that facilities and operations could potentially introduce. Examples of coordination with other disciplines includes participation with the initial design reviews, ongoing design change modifications, development of the SWPF Hazards Analysis, and the SWPF Documented Safety Analysis. Coordination with other disciplines is also ongoing through participation in the work planning process that includes development of JHAs and workplace monitoring of both initial monitoring (i.e., at the time of initial hazard exposure) and as-needed periodic monitoring.

The IH Program performs initial/periodic surveys and/or exposure monitoring as appropriate of work areas or operations to identify and evaluate potential worker health risks. The IH Program assesses the potential worker exposure and compares the exposure to OSHA Permissible Exposure Limits or American Conference of Governmental Industrial Hygienists Threshold Limit Values and determines the need for implementing protective measures to mitigate the hazard. Additionally, monitoring results are coordinated with the Occupational Medical Provider for evaluation and guidance on initiation of medical monitoring, if required.

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The IH Program also implements the appropriate and necessary workplace monitoring for known and suspected occupational carcinogens when the potential exists for these materials to be in the workplace atmosphere at concentrations exceeding or approaching the regulatory or guidance limits.

Although there is no expectation for beryllium exposure at the SWPF, the IH Program will proactively manage potential beryllium exposure in accordance with 10 CFR 850, *Chronic Beryllium Disease Prevention Program*<sup>56</sup>, in the event that the potential for beryllium exposure is identified.

When required by either the IH Program or Radiological Protection (i.e., health physics), respiratory protection equipment will be compliant with Section 134 of 29 CFR 1910<sup>16</sup> and, if supplied air suits are required, compliant with DOE-STD-1167-2003, *The Department of Energy Respiratory Acceptance Program for Supplied-Air Suits*<sup>57</sup>.

## **7.5 Occupational Medicine**

### **7.5.1 Occupational Medical Program Qualifications and Requirements**

An occupational medicine program compliant with Subpart K of 29 CFR 1910<sup>16</sup> is in place to support SWPF activities. This program is described in PM-OP-8501<sup>2</sup> (PP-SH-4451) and includes establishing and providing comprehensive occupational medicine services to SWPF site workers who will be working at the SWPF more than 30 days in a 12-month period; or are enrolled for any length of time in a medical or exposure monitoring program, regardless of the reason.

The occupational medicine services shall be directed by a graduate of a School of Medicine or Osteopathy and who is licensed for the practice of medicine in South Carolina. Persons working within the occupational medical program who provide occupational medicine services shall be licensed in South Carolina.

Parsons' occupational medicine program will provide the occupational medicine providers with access to information on:

- Current information about actual or potential work-related site hazards (chemical, radiological, physical, or ergonomic);
- Employee job-task and hazard analysis information, including essential job functions;
- Actual or potential work site exposures of each employee; and
- Personnel actions resulting in a change of job functions, hazards, or exposures.

Parsons will notify the occupational medicine provider when an employee has been absent because of an injury or illness for more than five (5) consecutive workdays (or an equivalent time period for those individuals on an alternative work schedule). In these cases, the occupational medical provider will provide a return to work evaluation to determine fitness for duty, including any work restrictions.

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Parsons will provide the occupational medicine provider with information on, and the opportunity to participate in, worker safety and health team meetings and committees, as well as access to the workplace for evaluation of job conditions and issues relating to workers' health.

### **7.5.2 Occupational Medicine Provider Requirements**

The occupational medicine provider performs those duties outlined in Appendix A.8 of 10 CFR 851<sup>1</sup>. The following discussion and following sections address some of those duties. The occupational medicine provider plans and implements the occupation medicine services, and participates 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. This provider establishes requirements for developing and maintaining employee records for each employee for whom medical services are provided and that contain medical, health history, exposure history, and demographic data collected for occupational medicine purposes. The provider ensures that these records are maintained in accordance with Executive Order 13335, *Incentives for the Use of Health Information Technology and Establishing the Position of the National Health Information Technology Coordinator*<sup>58</sup>.

The occupational medicine provider maintains medical service records and other records containing personal or medical information as confidential, protecting them from unauthorized access, and storing them under conditions that ensure their long-term preservation. If psychological records result from activities from medical services these records must be maintained separately from medical records and in the custody of the designated psychologist, in accordance with section 38(b)(2) of 10 CFR 712, *Human Reliability Program*<sup>59</sup>. Access to occupational medicine records will be provided in accordance with DOE regulations implementing Public Law 93-579 (Privacy Act of 1974<sup>60</sup>) and Public Law 106-398, *Energy Employees Occupational Illness Compensation Program Act of 2000 EEOICPA*<sup>61</sup>.

The occupational medicine services provider determines the content of the worker health evaluations and ensures that they are 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 Public Law 101-336 (Americans with Disabilities Act of 1990<sup>62</sup>).

The occupational medicine provider informs workers of the purpose and nature of medical evaluations and tests offered. Informing the worker consists of clearly communicating verbally and in writing to each worker provided testing. Documentation of this communication is placed in the worker's medical record.

The occupational medicine services provider works with Parsons' ESH staff to develop and periodically review medical emergency response procedures. The Occupational Medical Provider for emergency medical treatment by site emergency response personnel is provided by the M&O contractor. Medical emergency responses are integrated with the SRS emergency and disaster plans, as discussed in V-ESR-J-00012<sup>7</sup>.

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The occupational medicine service provider reviews medical aspects of and assists implementation of Parsons' bloodborne pathogen and biohazard waste programs.

### **7.5.3 Medical Monitoring**

Health evaluations will be conducted when determined necessary by the occupational medicine provider for the purpose of providing initial and continuing assessment of employee fitness for duty. These evaluations, when required, will be performed at the time of employment entrance or transfer to a job with new functions and hazards. This evaluation serves as a baseline record of physical condition and psychological capacity to perform work and ensures fitness for duty.

NOTE: Activities described in bullets 3 and 5 may be performed by a treating physician in the case of an ill or injured worker.

Additional medical monitoring, provided on the frequency required, consists of:

- 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;
- Diagnostic examinations to evaluate an employee's injuries and illnesses to determine work-relatedness, the applicability of medical restrictions, and referral for definitive care, as appropriate;
- Return to work evaluation following a work-related injury or illness or an absence due to any injury or illness lasting five (5) or more consecutive workdays (or an equivalent time period for those individuals on an alternative work schedule), in order to determine the individual's physical and psychological capacity to perform work and return to duty;
- Separation from employment evaluations. A general health evaluation to establish a record of physical condition will be offered to individuals; and
- Routine monitoring of ill and injured workers to facilitate their rehabilitation and safe return to work.

### **7.5.4 Medical Restriction Notification**

The occupational medicine provider or treating physician will place an individual under medical restrictions when health evaluations indicate that the worker should not perform certain job tasks. The occupational medicine provider or treating physician will notify the worker and contractor management when employee work restrictions are imposed or removed.

The occupational medicine provider physician, treating physician, or 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 work site hazards.

It is incumbent upon workers to notify their supervision of medical conditions or the use of prescription medication that may affect their ability to perform work safely. When a worker

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provides evidence to their supervisor or up-line manager of medical restrictions or medications imposed by their personal physician or other medical provider, management will confine work activities in accordance with the medical restrictions, when practical to do so. If a medical restriction cannot be accommodated, the ESH Manager, the worker's Manager (Parsons or subcontractor), and Human Relations representative will determine if the worker can continue to work or if they will not be allowed further site access until the medical restrictions are removed.

### **7.5.5 Evaluations of Morbidity and Mortality**

Parsons will 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 investigations into premature morbidity and mortality. As applicable, the occupational medicine provider must include in reports measures to identify and manage the principal preventable causes of premature morbidity and mortality affecting worker health and productivity. Parsons must evaluate these measures and include programs to prevent and manage these causes of morbidity when evaluations demonstrate their cost-effectiveness.

### **7.5.6 Health Promotional Programs**

The occupational medicine provider reviews and approves the medical and behavioral aspects of employee counseling and health promotional programs, if any, being supplied to the SWPF workforce, including the following types:

- Emergency Action Plans,
- Alcohol and other substance abuse rehabilitation programs, and
- Wellness programs.

## **7.6 Motor Vehicle Safety**

Parsons will 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). Details of this program are contained in PM-OP-8501<sup>2</sup> (PP-SH-4430, *Motor Vehicle Safety*), and are consistent with the applicable requirements found in Appendix A.9 of 10 CFR 851<sup>1</sup>, as applied to the SWPF site.

Motor vehicle awareness and safety will be promoted and enforcement of violations addressed by the appropriate manager. Emphasis activities will consist of activities to increase worker awareness of motor vehicle safety both on the SWPF site and the SRS, and will typically include such things as safety posters, routine emphasis as a safety toolbox topic, instant recognition of safe driving behavior, or other industry recognized methods for communicating with the work force.

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## **7.7 Electrical Safety**

Parsons will implement an appropriate electrical safety program to ensure the safety and health of the workforce. Parsons is committed to employees performing electrical work in a de-energized state. SWPF code of record for design and construction of electric systems is NFPA 70-2005, *National Electrical Code*<sup>63</sup>. However, Parsons commits to evaluating safe electrical work practices as described in NFPA 70 2017, *National Electrical Code*<sup>64</sup>, for future major modifications. Furthermore, Parsons is currently committed to comply with NFPA 70E-2004, *Standard for Electrical Safety in the Workplace*<sup>65</sup>, and Subpart S of 29 CFR 1910<sup>16</sup> as applicable. By this WSHP revision, Parsons is committing to come into compliance with, NFPA 70E-2018<sup>35</sup>, by the end of the one of year operations. Requirements of the electrical program are found in PL-MN-8705, *SWPF Electrical Safety Program Plan*<sup>66</sup>, and implementing procedures in PM-OP-8501<sup>2</sup> (PP-SH-4470, PP-SH-4471, *Working Near Overhead Power Lines or Hazardous Pipes*).

Review of the fundamental changes to NFPA 70E-2004<sup>65</sup> and NFPA 70E-2015<sup>34</sup> indicates the existing safety practices for alternating current (AC) power systems outlined in NFPA 70E-2004<sup>65</sup> and implemented in PM-OP-8501<sup>2</sup> (PP-SH-4470) and PP-CONOPS-10, *Lockout/Tagout Program*<sup>17</sup>, provide adequate personnel protection from potential exposure to energized AC power circuits in the interim period while changes are made to supporting calculations, implementing procedures, and personnel training. A programmatic gap was identified related to direct current (DC) power systems requirements between the 2004 and 2015 versions of the code. At SWPF, the one DC power system of concern is the Uninterruptible Power Supply (UPS) batteries. DC arc flash calculations were performed for the UPS batteries and were determined to be Level 0.

Parsons chartered an independent review of the NFPA 70E-2018<sup>35</sup>, requirements and actions required to bring facility procedures, processes, and programs into compliance with the 2018 version of the code. An implementation plan to achieve compliance with the 2018 version of the code no later than the end of one year of operations was submitted to the DOE for review on August 19, 2019 (see 00-700-27650, *Implementation Strategy for NFPA 70E-2018 SRPT-J-00013, Rev.2*<sup>67</sup>). DOE concurred with the plan on August 26, 2019 (see CMD-19-201, *Implementation Strategy for National Fire Protection Association [NFPA] 70E-2018 [Standard for Electrical Safety in the Workplace]*<sup>68</sup>) and directed a proposal be submitted. The proposal is on track for submittal by November 24, 2019.

This delayed implementation of NFPA 70E-2018<sup>35</sup> allows for the systematic review and implementation of program changes outside the window when the facility will be undergoing readiness reviews and startup. Introduction of major program and procedure changes in the middle of startup is judged to be a larger safety risk than delayed NFPA 70E-2018<sup>35</sup> implementation. Likewise, delayed facility startup [i.e. delayed high level waste removal and material stabilization] is judged a larger safety risk than risks from delayed NFPA 70E-2018<sup>35</sup> implementation.

See Appendix B, *Salt Waste Processing Facility (SWPF) Abatement Plan for NFPA 70E* for more details relative to NFPA 70E-2018<sup>35</sup>.

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## **8.0 REQUIREMENTS MATRIX**

The matrix contained in Appendix A of this document addresses the applicable requirements and provisions contained in Subpart C and Appendix A of 10 CFR 851<sup>1</sup>. Each rule is quoted and is accompanied by sufficient detail to establish Parsons' commitment to the rule/requirement. Specific measures identified for compliance point to the implementing document where the rule/requirement is implemented within the Project. Nothing in the matrix is intended to deviate from 10 CFR 851<sup>1</sup>. Where inconsistencies may exist, Parsons will work with DOE to clarify or expand upon the area of deviation, thereby ensuring that an applicable and appropriate worker safety and health program is implemented for the environment in which workers perform their day-to-day activities.

Parsons' Programmatic Compliance Assessment Report (PCAR) for 10 CFR 851<sup>1</sup> is a compilation of all 10 CFR 851<sup>1</sup> requirements and Parsons' implementation strategy for the requirement. The PCAR is a living document and may be updated at a different frequency than this Program and therefore, Appendix A may not match the PCAR in all cases for Subpart C and Appendix A requirements.

## **9.0 REFERENCES**

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- <sup>1</sup> 10 CFR 851, *Worker Safety and Health Program*.
  - <sup>2</sup> PM-OP-8501, *SWPF Operations Safety Manual*. Parsons, Aiken, South Carolina.
  - <sup>3</sup> PS-01, *SWPF Integrated Safety Management System Policy*. Parsons, Aiken, South Carolina.
  - <sup>4</sup> P-EIP-J-00001, *SWPF Integrated Safety Management System Description*. Parsons, Aiken, South Carolina.
  - <sup>5</sup> SPD-SWPF-0196, *Memorandum of Agreement Regarding Interfaces Pertaining to the Salt Waste Processing Facility Design, Construction, and Operation in J-Area*, Revision 1. U.S. Department of Energy-Savannah River Operations Office, Parsons Infrastructure & Technology Group, and Savannah River Remediation, LLC, Aiken, South Carolina.
  - <sup>6</sup> V-ESR-J-00008, *SWPF Electrical Power Distribution Interface Control Document (ICD-08)*, Revision 5. Parsons, Aiken, South Carolina.
  - <sup>7</sup> V-ESR-J-00012, *SWPF Emergency Response Interface Control Document (ICD-12)*, Revision 5. Parsons, Aiken, South Carolina.
  - <sup>8</sup> V-ESR-J-00018, *SWPF Work Controls Interface Control Document (ICD-18)*, Revision 4. Parsons, Aiken, South Carolina.
  - <sup>9</sup> V-ESR-J-00019, *SWPF Permitting and Monitoring Requirement Interface Control Document (ICD-19)*, Revision 3. Parsons, Aiken, South Carolina.
  - <sup>10</sup> V-ESR-J-00020, *SWPF Training Interface Control Document (ICD-20)*, Revision 3. Parsons, Aiken, South Carolina.
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- <sup>11</sup> DEAR 970.5204-2, DOE Management and Operating Contracts: Solicitation Provisions and Contract Clauses for Management and Operating Contracts: *Laws, Regulations, and DOE Directives*. U.S. Department of Energy Acquisition Regulation, Washington, D.C.
- <sup>12</sup> DEAR 970.5223-1, DOE Management and Operating Contracts: *Integration of environment, safety, and health into work planning and execution*. U.S. Department of Energy Acquisition Regulation, Washington, D.C.
- <sup>13</sup> V-IM-J-00001, *SWPF Organization, Roles, and Responsibilities Manual*. Parsons, Aiken, South Carolina.
- <sup>14</sup> PL-TR-1801, *SWPF Personnel Selection, Training, and Qualification Plan*. Parsons, Aiken, South Carolina.
- <sup>15</sup> PL-TR-1807, *SWPF Safety/Industrial Hygiene Training Program Description*. Parsons, Aiken, South Carolina.
- <sup>16</sup> 29 CFR 1910, *Occupational Safety and Health Standards*.
- <sup>17</sup> *Salt Waste Processing Facility Project Procedures Manual*. Parsons, Aiken, South Carolina.
- <sup>18</sup> DOE O 442.1A, *Department of Energy Employee Concerns Program*. U.S. Department of Energy, Washington, D.C.
- <sup>19</sup> 10 CFR 708, *DOE Contractor Employee Protection Program*.
- <sup>20</sup> PS-10, *SWPF Project Manager Policy on Safety Conscious Work Environment*. Parsons, Aiken, South Carolina.
- <sup>21</sup> SWPGGR03, *Facility Specific GET*.
- <sup>22</sup> SWPSGR01, *Basic Safety*.
- <sup>23</sup> 10 CFR 835, *Occupational Radiation Protection*.
- <sup>24</sup> PL-MN-8704, *Nuclear Maintenance Management Program Plan*. Parsons, Aiken, South Carolina.
- <sup>25</sup> S-RCP-J-00001, *SWPF Standards/Requirements Identification Document*. Parsons, Aiken, South Carolina.
- <sup>26</sup> DOE O 231.1B Chg 1, *Environmental Safety and Health Reporting*, U.S. Department of Energy, Washington, D.C.
- <sup>27</sup> 29 CFR 1904, *Recording and reporting occupational injuries and illnesses*.
- <sup>28</sup> ACGIH - 2016, *Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices*. American Conference of Governmental Industrial Hygienists, Cincinnati, Ohio.
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- <sup>29</sup> ANSI Z49.1 – 2012, *American National Standard Safety in Welding, Cutting and Allied Processes*. American National Standards Institute, Washington D.C.
- <sup>30</sup> ANSI/ASSE Z88.2 – 2015, *American National Standard Practices for Respiratory Protection* American National Standards Institute/ American Society of Safety Engineers, Washington D.C.
- <sup>31</sup> ANSI Z136.1 – 2014, *American National Standard for Safe Use of Lasers*. Washington D.C.
- <sup>32</sup> P-DB-J-00002, *SWPF Design Criteria Database*, Revision 2. Parsons, Aiken, South Carolina.
- <sup>33</sup> P-DB-J-00005, *Next Generation Solvent Deployment at Salt Waste Processing Facility Design Criteria Database*. Parsons, Aiken, South Carolina.
- <sup>34</sup> NFPA 70E-2015, *Standard for Electrical Safety in the Workplace*. National Fire Protection Association, Quincy, Massachusetts.
- <sup>35</sup> NFPA 70E-2018, *Standard for Electrical Safety in the Workplace*. National Fire Protection Association, Quincy, Massachusetts
- <sup>36</sup> PM-SH-4301, *SWPF Construction Safety Manual*. Parsons, Aiken, South Carolina.
- <sup>37</sup> S-CIP-J-00005, *SWPF Construction Health and Safety Plan*. Parsons, Aiken, South Carolina.
- <sup>38</sup> F-FHA-J-00001, *SWPF Project Fire Hazards Analysis*. Parsons, Aiken, South Carolina.
- <sup>39</sup> F-FHA-J-00002, *SWPF J-Area Warehouse Fire Hazards Analysis*. Parsons, Aiken, South Carolina.
- <sup>40</sup> F-PP-J-00001, *SWPF Fire Protection Program Plan*. Parsons, Aiken, South Carolina.
- <sup>41</sup> DE-AC09-02SR22210, *Design, Construction, and Commissioning of a Salt Waste Processing Facility (SWPF)*. U. S. Department of Energy. 2002.
- <sup>42</sup> DOE O 420.1B, *Facility Safety*. U.S. Department of Energy, Washington, D.C.
- <sup>43</sup> DOE O 420.1C Chg 1, *Facility Safety*. U.S. Department of Energy, Washington, D.C.
- <sup>44</sup> NFPA 101, *Life Safety Code*. National Fire Protection Association, Quincy, Massachusetts. 2002.
- <sup>45</sup> NFPA 10, *Standards for Portable Fire Extinguishers*. National Fire Protection Association, Quincy, Massachusetts. 2007.
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- <sup>46</sup> NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*. National Fire Protection Association, Quincy, Massachusetts. 2002.
- <sup>47</sup> NFPA 30, *Flammable and Combustible Liquids Code*. National Fire Protection Association, Quincy, Massachusetts. 2003.
- <sup>48</sup> NFPA 72, *National Fire Alarm Code*. National Fire Protection Association, Quincy, Massachusetts. 2002.
- <sup>49</sup> NFPA 80, *Standard for Fire Doors and Fire Windows*. National Fire Protection Association, Quincy, Massachusetts. 1999.
- <sup>50</sup> NFPA 801, *Standard for Fire Protection for Facilities Handling Radioactive Materials*. National Fire Protection Association, Quincy, Massachusetts. 2003.
- <sup>51</sup> DOE-STD-1066-1999, *Fire Protection Design Criteria*. U.S. Department of Energy, Washington D.C.
- <sup>52</sup> ASME B31.3, *Process Piping*. American National Standards Institute/American Society of Mechanical Engineers, New York, New York. May 1, 2002.
- <sup>53</sup> P-PLN-J-0137, *SWPF Pressure Safety Plan*. Parsons, Aiken, South Carolina.
- <sup>54</sup> P-DB-J-00005, *Next Generation Solvent Deployment at Salt Waste Processing Facility Design Criteria Database*. Parsons, Aiken, South Carolina.
- <sup>55</sup> PL-SH-4300, *SWPF Industrial Hygiene Program Plan*. Parsons, Aiken, South Carolina.
- <sup>56</sup> 10 CFR 850, *Chronic Beryllium Disease Prevention Program*.
- <sup>57</sup> DOE-STD-1167-2003, *The Department of Energy Respiratory Acceptance Program for Supplied-Air Suits*. U.S. Department of Energy, Washington D.C.
- <sup>58</sup> Executive Order 13335, “Incentives for the Use of Health Information Technology and Establishing the Position of the National Health Information Technology Coordinator”. Issued by the President. April 27, 2004.
- <sup>59</sup> 10 CFR 712.38, *Human Reliability Program*.
- <sup>60</sup> Public Law 93-579, Privacy Act of 1974, (5 U.S.C. § 552a) amended by Public Law 100-503: “Computer Matching and Privacy Protection Act of 1988”. U.S. Congress, Washington, D.C. Effective September 27, 1975; amended effective December 31, 1989.
- <sup>61</sup> Public Law 106-398, Energy Employees Occupational Illness Compensation Program Act of 2000 (EEOICPA); 42 U.S.C § 7384 et seq.), as amended. U.S. Congress, Washington, D.C. 2000.
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- <sup>62</sup> Public Law 101-336, Americans with Disabilities Act of 1990. U.S. Congress, Washington, D.C. Signed into law on July 26, 1990; effective July 26, 1992.
- <sup>63</sup> NFPA 70 2005, *National Electrical Code*. National Fire Protection Association, Quincy, Massachusetts.
- <sup>64</sup> NFPA 70 2017, *National Electrical Code*. National Fire Protection Association, Quincy, Massachusetts.
- <sup>65</sup> NFPA 70E 2004, *Standard for Electrical Safety in the Workplace*, National Fire Protection Association, Quincy, Massachusetts.
- <sup>66</sup> PL-MN-8705, *SWPF Electrical Safety Program Plan*. Parsons, Aiken, South Carolina.
- <sup>67</sup> 00-700-27650, *Implementation Strategy for NFPA 70E-2018 SRPT-J-00013, Rev.2*, Revision 1. Letter from F. Sheppard, Jr. (Parsons) to P.A. Marks (DOE). Parsons, Aiken, South Carolina.
- <sup>68</sup> CMD-19-201, *Implementation Strategy for National Fire Protection Association [NFPA] 70E-2018 [Standard for Electrical Safety in the Workplace]*. Letter from J.A. Speering (DOE) to F. Sheppard, Jr. (Parsons). U.S. Department of Energy, Savannah River Site, Aiken, South Carolina. August 26, 2019.
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**Appendix A. Worker Safety and Health Program Requirements**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart B - Program Requirements</b>		
<b>851.10 General Requirements</b>		
(a) With respect to a covered workplace for which a contractor is responsible, the contractor must: (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	PS-01, <i>SWPF Integrated Safety Management System Policy</i> P-EIP-J-00001, <i>SWPF Integrated Safety Management System Description</i> Parsons' Corporate Safety, Health and Environmental Policy Statement	
(a)(2) Ensure that work is performed in accordance with: (i) All applicable requirements of this part; and (ii) The worker safety and health program for that workplace.;	S-CIP-J-00003, SWPF 10 CFR 851 Worker Safety and Health Program	
(b) The written worker safety and health program must describe how the contractor complies with the: (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 (2) Any compliance order issued by the Secretary pursuant to §851.4;	S-CIP-J-00003, SWPF 10 CFR 851 Worker Safety and Health Program	

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart B - Program Requirements</b>		
<b>851.11 Development and approval of worker safety and health program</b>		
<p>(a) <i>Preparation and submission of worker safety and health program.</i> 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.</p> <p>(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.</p>	<p>S-CIP-J-00003, SWPF 10 CFR 851 Worker Safety and Health Program approved by DOE</p>	
<p>(2) If more than one contractor is responsible for covered workplaces, each contractor must:</p> <p>(i) Establish and maintain a worker safety and health program for the workplaces for which the contractor is responsible; and</p> <p>(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</p>	<p>S-CIP-J-00003, SWPF 10 CFR 851 Worker Safety and Health Program</p>	

Appendix A. Worker Safety and Health Program Requirements (cont.)

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart B - Program Requirements</b>		
<p>(3) The worker safety and health program must describe how the contractor will:</p> <p>(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</p> <p>(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</p>	<p>S-CIP-J-00003, SWPF 10 CFR 851 Worker Safety and Health Program</p>	
<p>(b) <i>DOE evaluation and approval.</i> 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</p>	<p>N/A – DOE function</p>	
<p>(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.</p> <p>(2) Contractors must send a copy of the approved program to the Associate Under Secretary for Environment, Health, Safety and Security.</p> <p>(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.</p>	<p>S-CIP-J-00003, SWPF 10 CFR 851 Worker Safety and Health Program</p>	

Appendix A. Worker Safety and Health Program Requirements (cont.)

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart B - Program Requirements</b>		
<b>851.11 Development and approval of worker safety and health program</b>		
<p>(c) <i>Updates.</i> (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.</p> <p>(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.</p> <p>(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.</p>	<p>S-CIP-J-00003, SWPF 10 CFR 851 Worker Safety and Health Program</p>	
<p>(d) <i>Labor Organizations.</i> If a contractor employs or supervises workers who are represented for collective bargaining by a labor organization, the contractor must:</p> <p>(1) Give the labor organization timely notice of the development and implementation of the worker safety and health program and any updates thereto; and</p> <p>(2) Upon timely request, bargain concerning implementation of this part, consistent with the Federal labor laws</p>	<p>S-CIP-J-00003, SWPF 10 CFR 851 Worker Safety and Health Program</p>	

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart B - Program Requirements</b>		
<b>851.12 Implementation</b>		
(a) Contractors must implement the requirements of this part. (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.	S-CIP-J-00003, SWPF 10 CFR 851 Worker Safety and Health Program	
<b>851.13 Compliance</b>		
<b>(a)</b> 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 <u>this</u> rule before February 9, 2007	S-CIP-J-00003, SWPF 10 CFR 851 Worker Safety and Health Program	
<b>(b)</b> In the event a contractor has established a written safety and health program, an Integrated Safety Management System (ISMS) 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.	S-CIP-J-00003, SWPF 10 CFR 851 Worker Safety and Health Program	
<b>(c)</b> 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	S-CIP-J-00003, SWPF 10 CFR 851 Worker Safety and Health Program	

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
<b>851.20 Management responsibilities and worker rights and responsibilities</b>		
(a) <u>Management responsibilities</u> . Contractors are responsible for the safety and health of their workforce and must ensure that contractor management at a covered workplace:	V-IM-J-00001, <i>SWPF Organization, Roles, and Responsibilities Manual</i> PS-01, <i>SWPF Integrated Safety Management System Policy</i> P-EIP-J-00001, <i>SWPF Integrated Safety Management System Description</i>	
(1) Establish written policy, goals, and objectives for the worker safety and health program;	PS-01, <i>SWPF Integrated Safety Management System Policy</i> Parsons' Corporate Safety, Health and Environmental Policy Statement	Annual POMC
(2) Use qualified worker safety and health staff (e.g., a certified industrial hygienist, or safety professional) to direct and manage the program;	PS-01, <i>SWPF Integrated Safety Management System Policy</i> V-IM-J-00001, <i>SWPF Organization, Roles, and Responsibilities Manual</i>	PL-TR-1801, <i>SWPF Personnel Selection, Training, and Qualification Plan</i> PL-TR-1807, <i>SWPF Safety/Industrial Hygiene Training Program Description</i> PP-SH-4403, <i>Introduction</i>
(3) Assign worker safety and health program responsibilities, evaluate personnel performance, and hold personnel accountable for worker safety and health performance;	V-IM-J-00001, <i>SWPF Organization, Roles, and Responsibilities Manual</i> PS-01, <i>SWPF Integrated Safety Management System Policy</i> PS-04, <i>SWPF Project Manager Policy on Conduct of Business</i> P-EIP-J-00001, <i>SWPF Integrated Safety Management System Description</i>	Annual Performance Appraisals

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
(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;	PS-01, <i>SWPF Integrated Safety Management System Policy</i> P-EIP-J-00001, <i>SWPF Integrated Safety Management System Description</i>	PP-SH-4403, <i>Introduction</i> PP-SH-4407, <i>Job Hazards Analysis</i> PP-OP-8534, <i>Pre-Job Brief and Post-Job Feedback</i> PP-SH-4408, <i>Local Safety Improvement Teams</i> PP-CM-8019, <i>Conduct of Testing</i>
(5) Provide workers with access to information relevant to the worker safety and health program;	PS-01, <i>SWPF Integrated Safety Management System Policy</i> P-EIP-J-00001, <i>SWPF Integrated Safety Management System Description</i>	PP-SH-4403, <i>Introduction</i> PP-SH-4407, <i>Job Hazards Analysis</i> PP-SH-4412, <i>Environmental, Safety, and Health Reporting</i> PP-SH-4460, <i>Hazard Communication</i> PP-OP-8534, <i>Pre-Job Brief and Post-Job Feedback</i>
(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;	PS-10, <i>SWPF Project Manager Policy on Safety Conscious Work Environment</i>	PP-TM-1408, <i>Employee Concerns Program</i> PP-SH-4412, <i>Environmental, Safety, and Health Reporting</i> PP-SH-4450, <i>First Aid, Medical Care, and Emergency Services</i> PP-SH-4407, <i>Job Hazards Analysis</i> PP-SH-4408, <i>Local Safety Improvement Teams</i>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
(7) Provide for prompt response to such reports and recommendations;	PS-10, <i>SWPF Project Manager Policy on Safety Conscious Work Environment</i>	PP-TM-1408, <i>Employee Concerns Program</i> PP-SH-4450, <i>First Aid, Medical Care, and Emergency Services</i> PP-CONOPS-07.1, <i>Investigation of Abnormal Events, Conditions, and Trends</i> PP-CONOPS-07.2, <i>Occurrence Reporting</i> PP-CONOPS-07.3, <i>Fact Finding</i> PP-CONOPS-07.4, <i>Investigations</i> PP-CONOPS-08, <i>Notifications</i>
(8) Provide for regular communication with workers about workplace safety and health matters;	PS-01, <i>SWPF Integrated Safety Management System Policy</i> P-EIP-J-00001, <i>SWPF Integrated Safety Management System Description</i>	PP-SH-4403, <i>Introduction</i> PP-SH-4408, <i>Local Safety Improvement Teams</i> PP-SH-4460, <i>Hazard Communication</i> PP-SH-4407, <i>Job Hazards Analysis</i> PP-OP-8534, <i>Pre-Job Brief and Post-Job Feedback</i>
(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	PS-01, <i>SWPF Integrated Safety Management System Policy</i> PS-04, <i>SWPF Project Manager Policy on Conduct of Business</i> P-EIP-J-00001, <i>SWPF Integrated Safety Management System Description</i>	PP-SH-4403, <i>Introduction</i> PP-SH-4411, <i>Time Out, Stand Downs, and DOE Directed Stop Work Orders</i>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
(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.		PP-SH-4403, <i>Introduction</i>
(b) Worker rights and responsibilities. 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. Workers at a covered workplace have the right, without reprisal, to: (1) Participate in activities described in this section on official time;	PS-01, <i>SWPF Integrated Safety Management System Policy</i> PS-04, <i>SWPF Project Manager Policy on Conduct of Business</i>	PP-SH-4403, <i>Introduction</i> PP-SH-4408, <i>Local Safety Improvement Teams</i>
(2) Have access to: (i) DOE safety and health publications; (ii) The worker safety and health program for the covered workplace; (iii) The standards, controls, and procedures applicable to the covered workplace; (iv) The safety and health poster that informs the worker of relevant rights and responsibilities; (v) Limited information on any recordkeeping log (OSHA Form 300). Access is subject to Freedom of Information Act requirements and restrictions; and (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;		PP-SH-4412, <i>Environmental, Safety, and Health Reporting</i> PP-SH-4460, <i>Hazard Communication</i>
(3) Be notified when monitoring results indicate the worker was overexposed to hazardous materials;		PP-SH-4443, <i>Air Monitoring</i> PP-SH-4460, <i>Hazard Communication</i>
(4) Observe monitoring or measuring of hazardous agents and have the results of their own exposure monitoring;		PP-SH-4443, <i>Air Monitoring</i> PP-SH-4460, <i>Hazard Communication</i>

Appendix A. Worker Safety and Health Program Requirements (cont.)

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
(5) Have a representative authorized by employees 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 or his authorized representative must consult, as appropriate, with employees on matters of worker safety and health;		PP-SH-4408, <i>Local Safety Improvement Teams</i>
(6) Request and receive results of inspections and accident investigations;		PP-SH-4408, <i>Local Safety Improvement Teams</i> PP-SH-4412, <i>Environmental, Safety, and Health Reporting</i>
(7) Express concerns related to worker safety and health;	PS-01, <i>SWPF Integrated Safety Management System Policy</i> PS-04, <i>SWPF Project Manager Policy on Conduct of Business</i> PS-10, <i>SWPF Project Manager Policy on Safety Conscious Work Environment</i>	PP-SH-4403, <i>Introduction</i> PP-SH-4408, <i>Local Safety Improvement Teams</i> PP-TM-1400, <i>Differing Professional Opinions</i> PP-TM-1408, <i>Employee Concerns Program</i>
(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		PP-SH-4403, <i>Introduction</i> PP-SH-4411, <i>Time Out, Stand Downs, and DOE Directed Stop Work Orders</i>
(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.	PS-01, <i>SWPF Integrated Safety Management System Policy</i> PS-04, <i>SWPF Project Manager Policy on Conduct of Business</i> P-EIP-J-00001, <i>SWPF Integrated Safety Management System Description</i>	PP-SH-4403, <i>Introduction</i> PP-SH-4411, <i>Time Out, Stand Downs, and DOE Directed Stop Work Orders</i>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
<b>851.21 Hazard identification and assessment</b>		
(a) Contractors must establish procedures to identify existing and potential workplace hazards and assess the risk of associated workers injury and illness. Procedures must include methods to:		PP-SH-4403, <i>Introduction</i> PP-SH-4460, <i>Hazard Communication</i> PP-SH-4407, <i>Job Hazards Analysis</i> PP-OP-8534, <i>Pre-Job Brief and Post-Job Feedback</i> PP-OP-8523, <i>Work Authorization and Release</i> PP-MN-8740, <i>Work Control</i> PP-SH-4364, <i>Job Hazard Analysis (Construction)</i> PL-SH-4309, <i>SWPF Hazardous Chemical Control Plan</i>
(1) Assess worker exposure to chemical, physical, biological, or safety workplace hazards through appropriate workplace monitoring;		PP-SH-4403, <i>Introduction</i> PP-SH-4460, <i>Hazard Communication</i> PP-SH-4443, <i>Air Monitoring</i> PP-SH-4440, <i>Occupational Noise Exposure Prevention and Control/Hearing Conservation</i> PP-CONOPS-10, <i>Lockout/Tagout Program</i> PP-SH-4470, <i>Working on or Near Energized Electrical Equipment</i> PL-OP-8526, <i>SWPF Chemical Control Plan</i> PP-OP-8525, <i>Chemical Receipt and Inventory Control</i> PP-SH-4461, <i>Safe Handling, Use and Storage of Chemicals</i> DP-SH-4301, <i>Performance of Industrial Hygiene Exposure Assessments</i>

Appendix A. Worker Safety and Health Program Requirements (cont.)

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
(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;	PL-SH-4300, <i>SWPF Industrial Hygiene Program Plan</i>	PP-SH-4460, <i>Hazard Communication</i> PP-SH-4443, <i>Air Monitoring</i> PP-SH-4440, <i>Occupational Noise Exposure Prevention and Control/Hearing Conservation</i> PL-SH-4309, <i>SWPF Hazardous Chemical Control Plan</i> DP-SH-4301, <i>Performance of Industrial Hygiene Exposure Assessments</i>
(3) Record observations, testing and monitoring results;		PP-SH-4443, <i>Air Monitoring</i> PP-SH-4440, <i>Occupational Noise Exposure Prevention and Control/Hearing Conservation</i>
(4) Analyze designs of new facilities and modifications to existing facilities and equipment for potential workplace hazards;	S-EIP-J-00003, <i>SWPF Industrial and Chemical Safety Design Review</i> S-EIP-J-00004, <i>SWPF Final Design ALARA Review Report</i> V-PHR-J-00007, <i>SWPF Hazard Analysis</i> V-PHR-J-00006, <i>SWPF Next Generation Solvent Conceptual Design Hazard and Operability Review Summary Report</i>	PP-EN-5012, <i>Design Change Notices</i>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
(5) Evaluate operations, procedures, and facilities to identify workplace hazards;	P-ESR-J-00011, <i>SWPF Operations Requirements Document</i>	S-SAR-J-00002, <i>SWPF Documented Safety Analysis</i> F-FHA-J-00001, <i>SWPF Project Fire Hazards Analysis</i> F-FHA-J-00002, <i>SWPF J-Area Warehouse Fire Hazards Analysis (Building 763-S)</i>
(6) Perform routine job activity-level hazard analyses;		PP-SH-4407, <i>Job Hazards Analysis</i> PP-OP-8534, <i>Pre-Job Brief and Post-Job Feedback</i> PP-SH-4364, <i>Job Hazard Analysis (Construction)</i>
(7) Review site safety and health experience information; and		PP-CONOPS-07.2, <i>Occurrence Reporting</i> PP-OP-8546, <i>Operating Experience Program</i>
(8) Consider interaction between workplace hazards and other hazards such as radiological hazards.		F-FHA-J-00001, <i>SWPF Project Fire Hazards Analysis</i> F-FHA-J-00002, <i>J-Area Warehouse Fire Hazards Analysis (Building 763-S)</i>
(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. 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: (1) Achieve technical compliance; or (2) Provide additional controls to protect the workers.	<i>This requirement is not applicable to the Parsons' Contracted activities to design, build, commission, and operate the SWPF.</i>	

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
<p>(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.</p>	<p>PL-SH-4300, <i>SWPF Industrial Hygiene Program Plan</i></p>	<p>PP-SH-4407, <i>Job Hazards Analysis</i>                      PP-OP-8534, <i>Pre-Job Brief and Post-Job Feedback</i>                      PP-SH-4443, <i>Air Monitoring</i>                      PP-SH-4440, <i>Occupational Noise Exposure Prevention and Control/Hearing Conservation</i>                      DP-SH-4301, <i>Performance of Industrial Hygiene Exposure Assessments</i></p>
<b>851.22 Hazard prevention and abatement</b>		
<p>(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.</p>	<p>PL-SH-4300, <i>SWPF Industrial Hygiene Program Plan</i></p>	<p>PP-SH-4407, <i>Job Hazards Analysis</i>                      PP-OP-8534, <i>Pre-Job Brief and Post-Job Feedback</i>                      PP-SH-4443, <i>Air Monitoring</i>                      PP-SH-4364, <i>Job Hazard Analysis (Construction)</i>                      PP-SH-4440, <i>Occupational Noise Exposure Prevention and Control/Hearing Conservation</i></p>

Appendix A. Worker Safety and Health Program Requirements (cont.)

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
<p>(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.</p>	<p>S-EIP-J-00003, <i>SWPF Industrial and Chemical Safety Design Review</i>                      S-EIP-J-00004, <i>SWPF Final Design ALARA Review Report</i>                      V-PHR-J-00007, <i>SWPF Hazard Analysis</i>                      V-PHR-J-00006, <i>SWPF Next Generation Solvent Conceptual Design Hazard and Operability Review Summary Report</i></p>	<p>PP-SH-4407, <i>Job Hazards Analysis</i>                      PP-OP-8534, <i>Pre-Job Brief and Post-Job Feedback</i>                      PP-SH-4364, <i>Job Hazard Analysis (Construction)</i>                      PP-SH-4443, <i>Air Monitoring</i>                      PP-SH-4440, <i>Occupational Noise Exposure Prevention and Control/Hearing Conservation</i>                      PL-OP-8526, <i>SWPF Chemical Control Plan</i>                      PP-OP-8525, <i>Chemical Receipt and Inventory Control</i>                      PP-SH-4461, <i>Safe Handling, Use and Storage of Chemicals</i></p>
<p>(2) For existing hazards identified in the workplace, contractors must:                      (i) Prioritize and implement abatement actions according to the risk to workers; (ii) Implement interim protective measures pending final abatement; and (iii) Protect workers from dangerous safety and health conditions;</p>	<p>PS-01, <i>SWPF Integrated Safety Management System Policy</i>                      P-EIP-J-00001, <i>SWPF Integrated Safety Management System Description</i></p>	<p>PP-SH-4403, <i>Introduction</i>                      PP-SH-4470, <i>Working on or Near Energized Electrical Equipment</i>                      PP-CONOPS-10, <i>Lockout/Tagout Program</i></p>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
(b) Contractors must select hazard controls based on the following hierarchy: (1) Elimination or substitution of the hazards where feasible and appropriate; (2) Engineering controls where feasible and appropriate; (3) Work practices and administrative controls that limit worker exposures; and (4) Personal protective equipment.		PP-SH-4407, <i>Job Hazards Analysis</i> PP-OP-8534, <i>Pre-Job Brief and Post-Job Feedback</i> PP-SH-4364, <i>Job Hazard Analysis (Construction)</i>
(c) Contractors must address hazards when selecting or purchasing equipment, products, and services.	PS-01, <i>SWPF Integrated Safety Management System Policy</i> P-EIP-J-00001, <i>SWPF Integrated Safety Management System Description</i>	PP-SH-4460, <i>Hazard Communication</i>
<b>851.23 Safety and health standards</b>		
(a) Contractors must comply with the following safety and health standards that are applicable to the hazards at their covered workplace: (1) Title 10 Code of Federal Regulations (CFR) 850, "Chronic Beryllium Disease Prevention Program."	Not Applicable	
(2) Title 29 CFR, Parts 1904.4 through 1904.11, 1904.29 through 1904.33; and 1904.46, "Recording and Reporting Occupational Injuries and Illnesses."		PP-SH-4412, <i>Environmental, Safety, and Health Reporting</i>
(3) Title 29 CFR, Part 1910, "Occupational Safety and Health Standards," excluding 29 CFR 1910.1096, "Ionizing Radiation" and 29 CFR 1910.1000, "Beryllium".		PM-OP-8501, <i>SWPF Operations Safety Manual</i>
(4) Title 29 CFR, Part 1915, "Shipyard Employment."	Not Applicable	
(5) Title 29 CFR, Part 1917, "Marine Terminals."	Not Applicable	

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
(6) Title 29 CFR, Part 1918, "Safety and Health Regulations for Longshoring."	Not Applicable	
(7) Title 29 CFR, Part 1926, "Safety and Health Regulations for Construction."		PM-SH-4301, <i>SWPF Construction Safety Manual</i>
(8) Title 29 CFR, Part 1928, "Occupational Safety and Health Standards for Agriculture."	Not Applicable	
(9) American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices" (2016) (incorporated by reference, see § 851.27) when the ACGIH Threshold Limit Values (TLVs) are lower (more protective) than permissible exposure limits in 29 CFR 1910 for general industry and/or part 1926 for construction. 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 part 1910 and/or part 1926.		PP-SH-4443, <i>Air Monitoring</i> PP-SH-4440, <i>Occupational Noise Exposure Prevention and Control/Hearing Conservation</i> PP-SH-4441, <i>Ergonomics</i> PP-SH-4444, <i>Heat Stress/Cold Stress Prevention</i> PL-SH-4300, <i>Industrial Hygiene Program Plan</i>
(10) American National Standards Institute (ANSI) Z88.2, "American National Standard Practices for Respiratory Protection," (2015) (incorporated by reference see § 851.27).		PP-SH-4442, <i>Respiratory Protection</i>
(11) ANSI Z136.1, "Safe Use of Lasers," (2014) (incorporated by reference see § 851.27).		PP-SH-4447, <i>Laser Safety</i>
(12) ANSI Z49.1, "Safety in Welding, Cutting and Allied Processes," sections 4.3 and E4.3 (2012) (incorporated by reference see § 851.27).		PP-SH-4416, <i>Control of Hot Work</i> PP-CS-7320, <i>General Welding Procedure</i>

Appendix A. Worker Safety and Health Program Requirements (cont.)

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
<p>(13) National Fire Protection Association (NFPA) 70, "National Electrical Code," (2017) (incorporated by reference see § 851.27). **2005 is code of record for design and construction. 2017 will be evaluated for use in any future major modifications.</p>	<p>PRO-GE-85, <i>Safety-In-Design Compliance Program</i> P-DB-J-00002, <i>SWPF Design Criteria Database, ID # 158</i></p>	
<p>(14) NFPA 70E, "Standard for Electrical Safety in the Workplace," (2015) (incorporated by reference see § 851.27). ** as discussed in the WSHP, SWPF currently complies with the 2004 version of the standard and plans to transition to the 2018 version prior to the end of the one year of operations.</p>	<p>P-DB-J-00002, <i>SWPF Design Criteria Database, ID # 159</i> PL-MN-8705, <i>SWPF Electrical Safety Program Plan</i></p>	<p>PP-SH-4470, <i>Working on or Near Energized Electrical Equipment</i> PP-SH-4471, <i>Working Near Overhead Power Lines or Hazardous Pipes</i> PP-CONOPS-10, <i>Lockout/Tagout Program</i></p>
<p>(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.</p>		<p>PP-SH-4403, <i>Introduction</i></p>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
<b>851.24 Functional areas</b>		
(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.		PM-OP-8501, <i>SWPF Operations Safety Manual</i>
(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.”		Addressed in pages A19 thru A39
<b>851.25 Training and information</b>		
(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.	PL-TR-1801, <i>SWPF Personnel Selection, Training, and Qualification Plan</i>	PP-SH-4403, <i>Introduction</i> PP-SH-4460, <i>Hazard Communication</i> PP-SH-4407, <i>Job Hazards Analysis</i>
(b)The contractor must provide: (1) Training and information for new workers, before or at the time of initial assignment to a job involving exposure to a hazard;	PL-TR-1801, <i>SWPF Personnel Selection, Training, and Qualification Plan</i>	PP-SH-4403, <i>Introduction</i> PP-SH-4460, <i>Hazard Communication</i> SWPGGR03, <i>Facility Specific GET</i> SWPSGR01, <i>Basic Safety</i> . CAT
(2) Periodic training as often as necessary to ensure that workers are adequately trained and informed; and	PL-TR-1801, <i>SWPF Personnel Selection, Training, and Qualification Plan</i>	PP-SH-4460, <i>Hazard Communication</i> Annual Refresher GET/CAT

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
(3) Additional training when safety and health information or a change in workplace conditions indicates that a new or increased hazard exists.	PL-TR-1801, <i>SWPF Personnel Selection, Training, and Qualification Plan</i>	PP-SH-4407, <i>Job Hazards Analysis</i> PP-SH-4460, <i>Hazard Communication</i>
(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.		PL-TR-1807, <i>SWPF Safety/Industrial Hygiene Training Program Description</i>
<b>851.26 Recordkeeping and reporting</b>		
(a) <u>Recordkeeping</u> . Contractors must: (1) Establish and maintain complete and accurate records of all hazard inventory information, hazard assessments, exposure measurements, and exposure controls.		PP-SH-4460, <i>Hazard Communication</i> PP-SH-4443, <i>Air Monitoring</i> PP-SH-4440, <i>Occupational Noise Exposure Prevention and Control/Hearing Conservation</i>
(2) Ensure that the work-related injuries and illnesses of its workers and subcontractor workers are recorded and reported accurately and consistent with DOE Reporting Directives.		PP-SH-4412, <i>Environmental, Safety, and Health Reporting</i>
(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 by DOE.		PP-SH-4412, <i>Environmental, Safety, and Health Reporting</i>
(4) Not conceal nor destroy any information concerning non-compliance or potential noncompliance with the requirements of this part.		PP-SH-4412, <i>Environmental, Safety, and Health Reporting</i>

Appendix A. Worker Safety and Health Program Requirements (cont.)

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
(b) <u>Reporting and investigation</u> . Contractors must: (1) Report and investigate accidents, injuries and illness; and		PP-SH-4412, <i>Environmental, Safety, and Health Reporting</i> PP-CONOPS-07.2, <i>Occurrence Reporting</i> PP-CONOPS-07.3, <i>Fact Finding</i> PP-CONOPS-07.4, <i>Investigations</i> DP-SH-4301, <i>Performance of Industrial Hygiene Exposure Assessments</i>
(2) Analyze related data for trends and lessons learned		PP-SH-4412, <i>Environmental, Safety, and Health Reporting</i> PP-CONOPS-07.4, <i>Investigations</i> PP-OP-8546, <i>Operating Experience Program</i>

Appendix A. Worker Safety and Health Program Requirements (cont.)

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
<b>851.27 Materials incorporated by reference</b>		
<p>(a) <i>General.</i> We incorporate by reference the following standards into part 851. The material has been approved for incorporation by the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. Any subsequent amendment to a standard by the standard-setting organization will not affect the DOE regulations unless and until amended by DOE. Material is incorporated as it exists on the date of the approval. To use a subsequent amendment to a standard, DOE must publish a document in the Federal Register and the material must be available to the public. All approved material is available for inspection at the U.S. Department of Energy, Office of Environment, Health, Safety and Security, Office of Worker Safety and Health Policy, 1000 Independence Ave. SW, Washington, DC 20585. 301-903-6061. The material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030 or go to: <a href="http://www.archives.gov/federal-register/cfr/ibr-locations.html">www.archives.gov/federal-register/cfr/ibr-locations.html</a>. Standards can be obtained from the sources listed below.</p>		Addressed in (b)(1) thru (e)(2)
<p>(b) <i>ACGIH</i><sup>®</sup>. American Conference of Governmental Industrial Hygienist, 1330 Kemper Meadow Drive, Cincinnati, OH 45240. Telephone number: 513-742-2020, or go to: <a href="http://www.acgih.org">http://www.acgih.org</a></p> <p>(1) <i>ACGIH</i><sup>®</sup>, <i>Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices</i>, 2016; IBR approved for §851.23.</p> <p>(2) Reserved</p>	<p>PL-SH-4300, <i>SWPF Industrial Hygiene Program Plan</i> (6.3)</p>	<p>PP-SH-4443, <i>Air Monitoring</i>                      PP-SH-4440, <i>Occupational Noise Exposure Prevention and Control/Hearing Conservation</i>                      PP-SH-4441, <i>Ergonomics</i></p>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
<p>(c) <i>ANSI</i>. American National Standards Institute, 1899 L Street NW, 11th Floor, Washington, DC 20036. Telephone number: 202-293-8020, or go to: <a href="http://www.ansi.org">http://www.ansi.org</a>.</p> <p>(1) ANSI Z49.1-2012, <i>American National Standard Safety in Welding, Cutting and Allied Processes</i>, sections 4.3 and E4.3, ANSI approved March 9, 2012, IBR approved for §851.23.</p>		<p>PP-SH-4416, <i>Control of Hot Work</i> PP-CS-7320, <i>General Welding Procedure</i></p>
<p>(2) ANSI/ASSE Z88.2-2015, <i>American National Standard Practices for Respiratory Protection</i>, ANSI approved March 4, 2015, IBR approved for §851.23.</p>		<p>PP-SH-4442, <i>Respiratory Protection</i></p>
<p>(3) ANSI Z136.1-2014, <i>American National Standard for Safe Use of Lasers</i>, ANSI approved December 10, 2013, IBR approved for §851.23.</p>		<p>PP-SH-4447, <i>Laser Safety</i></p>

Appendix A. Worker Safety and Health Program Requirements (cont.)

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
<p>(d) ASME. American Society of Mechanical Engineers, P.O. Box 2300, Fairfield, NJ 07007. Telephone: 800-843-2763, or go to: <a href="http://www.asme.org">http://www.asme.org</a>. (1) ASME Boilers and Pressure Vessel Codes (BPVC) as follows:</p> <p>(i) BPVC.I-2015, Section I—Rules for Construction of Power Boilers,</p> <p>(ii) BPVC.II.A-2015, Section II—Materials, Part A—Ferrous Material Specifications (Beginning to SA-450);</p> <p>(iii) BPVC.II.A-2015, Section II—Materials, Part A—Ferrous Material Specifications (SA-451 to End);</p> <p>(iv) BPVC.II.B-2015, Section II—Materials, Part B—Nonferrous Material Specifications;</p> <p>(v) BPVC.II.C-2015, Section II—Materials, Part C—Specification for Welding Rods; Electrodes, and Filler Metals;</p> <p>(vi) BPVC.II.D.C-2015, Section II—Materials, Part D—Properties (Customary);</p> <p>(vii) BPVC.II.D.M-2015, Section II—Materials, Part D—Properties (Metric);</p> <p>(ix) BPVC.III.1.NB-2015, Section III—Rules for Construction of Nuclear Facility Components, Division I—Subsection NB, Class 1 Components;</p> <p>(x) BPVC.III.1.NC-2015, Section III—Rules for Construction of Nuclear Facility Components, Division I—Subsection NC, Class 2 Components;</p> <p>(xi) BPVC.III.1.ND-2015, Section III—Rules for Construction of Nuclear Facility Components, Division I—Subsection ND, Class 3 Components;</p> <p>(xii) BPVC.III.1.NE-2015, Section III—Rules for Construction of Nuclear Facility Components, Division I—Subsection NE, Class MC Components;</p> <p>(xiii) BPVC.III.1.NF-2015, Section III—Rules for Construction of Nuclear Facility Components, Division I—Subsection NF, Supports;</p> <p>(xiv) BPVC.III.1.NG-2015, Section III—Rules for Construction of Nuclear Facility Components, Division I—Subsection NG, Core Support Structures;</p> <p>(xv) BPVC.III.1.NH-2015, Section III—Rules for Construction of Nuclear Facility Components, Division I—Subsection NH, Class 1 Components in Elevated Temperature Service;</p> <p>(xvi) BPVC.III.NCA-2015, Section III—Rules for Construction of Nuclear Facility; Components, Subsection NCA, General Requirements for Division 1 and Division 2</p>	<p>P-DB-J-00002, <i>SWPF Design Criteria Database, Item #807</i></p> <p>P-PLN-J-0137, <i>SWPF Pressure Safety Plan</i></p> <p>* SWPF code of record remains earlier versions of BPVC standards; however, any new major modifications will evaluate the newer version of the standards listed in 851</p>	<p>PP-EN-5003, <i>Specifications</i></p>

Appendix A. Worker Safety and Health Program Requirements (cont.)

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
<p>(xvii) BPVC.III.2-2015, <i>Section III—Rules for Construction of Nuclear Facility Components, Division 2, Code for Concrete Containments;</i>                      (xviii) BPVC.III.3-2015, <i>Section III—Rules for Construction of Nuclear Facility Components, Division 3, Containments for Transportation and Storage of Spent Nuclear Fuel and High Level Radioactive Material and Waste;</i>                      (xix) BPVC.III.5-2015, <i>Section III—Rules for Construction of Nuclear Facility Components, Division 5, High Temperature Reactors;</i>                      (xx) BPVC.IV-2015, <i>Section IV, Rules for Construction of Heating Boilers;</i>                      (xxi) BPVC.V-2015, <i>Section V, Nondestructive Examination;</i>                      (xxii) BPVC.VI-2015, <i>Section VI, Recommended Rules for the Care and Operation of Heating Boilers;</i>                      (xxiii) BPVC.VII-2015, <i>Section VII, Recommended Guidelines for the Care of Power Boilers;</i>                      (xxiv) BPVC.VIII.1-2015, <i>Section VIII—Rules for Construction of Pressure Vessels, Division 1;</i>                      (xxv) BPVC.VIII.2-2015, <i>Section VIII—Rules for Construction of Pressure Vessels, Division 2, Alternative Rules;</i>                      (xxvi) BPVC.VIII.3-2015, <i>Section VIII—Rules for Construction of Pressure Vessels, Division 3, Alternative Rules for Construction of High Pressure Vessels;</i>                      (xxvii) BPVC.IX-2015, <i>Section IX—Welding, Brazing and Fusing Qualifications, Qualification Standard for Welding, Brazing, and Fusing Procedures; Welders; Brazers; and Welding, Brazing, and Fusing Operators</i>                      (xxviii) BPVC.X-2015, <i>Section X, Fiber—Reinforced Plastic Pressure Vessels;</i>                      (xxix) BPVC.XI-2015, <i>Section XI, Rules for Inservice Inspection of Nuclear Power Plant Components;</i>                      (xxx) BPVC.XII-2015, <i>Section XII, Rules for Construction and Continued Service of Transport Tanks;</i>                      (xxxi) BPVC.CC.BPV-2015, <i>Code Cases, Boilers and Pressure Vessels;</i> 2015 edition; and                      (xxxii) BPVC.CC.NC-2015, <i>Code Cases, Nuclear Components;</i> issued July 1, 2015, IBR approved for appendix A, section 4, Pressure Safety</p>		

Appendix A. Worker Safety and Health Program Requirements (cont.)

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
<p>(d)(2)(i) ASME B31 (ASME Code for Pressure Piping) as follows:                      (i) B31.1-2016, <i>Power Piping, ASME Code for Pressure Piping, B31</i>;                      (ii) B31.3-2014, <i>Process Piping, ASME Code for Pressure Piping, B31</i>;                      (iii) B31.4-2016, <i>Pipeline Transportation Systems for Liquids and Slurries, ASME Code for Pressure Piping, B31</i>;                      (iv) B31.5-2016, <i>Refrigeration Piping and Heat Transfer Components, ASME Code for Pressure Piping, B3</i>;                      (v) B31.8-2016, <i>Gas Transmission and Distribution Piping Systems, ASME Code for Pressure Piping, B31</i>;                      (vi) B31.8S-2014, <i>Managing System Integrity of Gas Pipelines, ASME Code for Pressure Piping, B31, Supplement to ASME B31.8</i>;                      (vii) B31.9-2014, <i>Building Services Piping, ASME Code for Pressure Piping, B31</i>; and                      (viii) B31G-2012, <i>Manual for Determining the Remaining Strength of Corroded Pipelines, Supplement to ASME B31 Code for Pressure Piping.</i></p>	<p>P-DB-J-00002, <i>SWPF Design Criteria Database, Item #807</i>                      P-PLN-J-0137, <i>SWPF Pressure Safety Plan</i>                      * SWPF code of record remains the following versions of the BPVC standards; however, any new major modifications will evaluate the newer version of the standards listed in 851                      (i) B31.1-2001-Power Piping, and B31.a-2002-Addenda to ASME B31.1-2001;                      (ii) B31.2-1968-Fuel Gas Piping;                      (iii) B31.3-2002-Process Piping;                      (iv) B31.4-2002-Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids;                      (v) B31.5-2001-Refrigeration Piping and Heat Transfer Components, and B31.5a-2004, Addenda to ASME B31.5-2001;                      (vi) B31.8-2003-Gas Transmission and Distribution Piping Systems;                      (vii) B31.8S-2001-Managing System Integrity of Gas Pipelines;                      (viii) B31.9-1996-Building Services Piping;                      (ix) B31.11-2002-Slurry Transportation Piping Systems; and                      (x) B31G-1991-Manual for Determining Remaining Strength of Corroded Pipelines.</p>	<p>PP-EN-5003, <i>Specifications</i>                      PP-PR-6012, <i>Preparation and Change Management of Requisitions</i></p>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Subpart C - Specific Program Requirements</b>		
<p>(e) <i>NFPA</i>. The National Fire Protection Association, One Batterymarch Park, Quincy, MA 02169. Telephone: 617-984-7423, or go to: <a href="http://www.nfpa.org">http://www.nfpa.org</a>.</p> <p>(1) National Fire Protection Association (NFPA) 70, "National Electrical Code," (2017).</p> <p>* SWPF code of record remains the version listed; however, any new major modifications will evaluate the 2017 version of this standard.</p>	<p>PRO-GE-85, <i>Safety-In-Design Compliance Program</i></p> <p>P-DB-J-00002, <i>SWPF Design Criteria Database, ID # 158</i></p>	
<p>(e)(2) NFPA 70E, "Standard for Electrical Safety in the Workplace," (2015).</p> <p>** as discussed in the WSHP, SWPF intends to transition to the 2018 version prior to the end of the one year of operations.</p>	<p>PL-MN-8705, <i>SWPF Electrical Safety Program Plan</i></p> <p>P-DB-J-00002, <i>SWPF Design Criteria Database, ID # 159</i></p>	<p>PP-SH-4470, <i>Working on or Near Energized Electrical Equipment</i></p> <p>PP-SH-4471, <i>Working Near Overhead Power Lines or Hazardous Pipes</i></p> <p>PP-CONOPS-10, <i>Lockout/Tagout Program</i></p>
<b>851.31 Variance process</b>		
<p>(a) Application. Contractors desiring a variance from a safety and health standard, or portion thereof, may submit a written application containing the information in paragraphs (c) and (d) of this section to the appropriate CSO.</p>	<p>See WSHP 6.2.14</p>	

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
<b>1. Construction safety</b>		
(a) For each separately definable construction activity (e.g., excavations, foundations, structural steel, roofing) the construction contractor must:		See items below
(1) Prepare and have approved by the construction manager an activity hazard analysis prior to commencement of affected work. Such analyses must:	S-CIP-J-00005, <i>SWPF Construction Health and Safety Plan</i>	PP-SH-4364, <i>Job Hazards Analysis (Construction)</i> PP-SH-4365, <i>Safe Work Brief</i>
(i) Identify foreseeable hazards and planned protective measures;		PP-SH-4364, <i>Job Hazards Analysis (Construction)</i> PP-SH-4365, <i>Safe Work Brief</i>
(ii) Address further hazards revealed by supplemental site information (e.g., site characterization data, as-built drawings) provided by the construction manager;		PP-SH-4364, <i>Job Hazards Analysis (Construction)</i> PP-SH-4365, <i>Safe Work Brief</i>
(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		DP-EN-5002, <i>Drawings</i>
(iv) Identify competent persons required for workplace inspections of the construction activity, where required by OSHA standards.		PP-SH-4364, <i>Job Hazards Analysis (Construction)</i> PP-SH-4386, <i>Competent/Qualified Person</i>
(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.	S-CIP-J-00005, <i>SWPF Construction Health and Safety Plan</i>	PP-SH-4364, <i>Job Hazards Analysis (Construction)</i> PP-SH-4365, <i>Safe Work Brief</i>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
(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.	S-CIP-J-00005, <i>SWPF Construction Health and Safety Plan</i>	PP-SH-4364, <i>Job Hazards Analysis (Construction)</i> PP-SH-4365, <i>Safe Work Brief</i>
(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.	S-CIP-J-00005, <i>SWPF Construction Health and Safety Plan</i>	
(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.	S-CIP-J-00005, <i>SWPF Construction Health and Safety Plan</i>	PP-SH-4411, <i>Time Out, Stand Downs, and DOE Directed Stop Work Orders</i> PP-SH-4364, <i>Job Hazards Analysis (Construction)</i> PP-SH-4365, <i>Safe Work Brief</i> PP-SH-4413, <i>Barricades, Tags, Signs, and Color Codes</i>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
<p>(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.</p>	<p>S-CIP-J-00005, <i>SWPF Construction Health and Safety Plan</i></p>	
<b>2. Fire protection</b>		
<p>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.</p>	<p>F-PP-J-00001, <i>SWPF Fire Protection Program Plan</i> V-ESR-J-00012, <i>SWPF Emergency Response Interface Control Document (ICD-12)</i></p>	<p>PP-EN-5022, <i>Preparation of Fire Hazards Analysis</i> F-FHA-J-00001, <i>SWPF Project Fire Hazards Analysis</i> F-FHA-J-00002, <i>J-Area Warehouse Fire Hazards Analysis (Building 763-S)</i></p>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
(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.	V-ESR-J-00012, <i>SWPF Emergency Response Interface Control Document (ICD-12)</i> , Section 2.2.1 F-FHA-J-00001, <i>SWPF Project Fire Hazards Analysis</i> F-PP-J-00001, <i>SWPF Fire Protection Program Plan</i>	PP-EN-5022, <i>Preparation of Fire Hazards Analysis</i> PP-EN-5037, <i>Fire Prevention Inspection</i> PP-EN-5036, <i>Fire Protection Impairment Control</i>
<b>3. Explosives safety</b>		
(a) Contractors responsible for the use of explosive materials must establish and implement a comprehensive explosives safety program.	Not Applicable	
(b) Contractors must comply with the policy and requirements specified in appropriate explosive safety technical standards.	Not Applicable	
(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	

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
<b>4. Pressure safety</b>		
(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.	P-PLN-J-0137, <i>SWPF Pressure Safety Plan</i>	PP-EN-5040, <i>Installed Pressurized System Inspections</i>
(b) Contractors must ensure that all pressure vessels, boilers, air receivers, and supporting piping systems conform to: (1) The applicable American Society of Mechanical Engineers (ASME) Boilers and Pressure Vessel Codes (BPVC) including applicable code cases as indicated in paragraphs (b)(1)(i) through (xxxii) of this section: [see section 851.27(d)(1) for complete list]	P-DB-J-00002, <i>SWPF Design Criteria Database</i> , Item # 807	PP-EN-5003, <i>Specifications</i>  * SWPF code of record remains earlier versions of these BPVC standards; however, any new major modifications or new projects will evaluate the newer version of these standards listed in 851.
(2) The applicable ASME B.31 code for pressure piping as indicated in this paragraph; and or as indicated in paragraph (b)(3) or this section:	P-DB-J-00002, <i>SWPF Design Criteria Database</i> , Item # 807	PP-EN-5003, <i>Specifications</i>

Appendix A. Worker Safety and Health Program Requirements (cont.)

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
(i) B31.1-2001-Power Piping, and B31.a-2002-Addenda to ASME B31.1-2001 (incorporated by reference, see § 851.27); (ii) B31.2-1968-Fuel Gas Piping (incorporated by reference, see § 851.27); (iii) B31.3-2002-Process Piping (incorporated by reference, see § 851.27); (iv) B31.4-2002-Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids (incorporated by reference, see § 851.27); (v) B31.5-2001-Refrigeration Piping and Heat Transfer Components, and B31.5a-2004, Addenda to ASME B31.5-2001 (incorporated by reference, see § 851.27); (vi) B31.8-2003-Gas Transmission and Distribution Piping Systems (incorporated by reference, see § 851.27); (vii) B31.8S-2001-Managing System Integrity of Gas Pipelines (incorporated by reference, see § 851.27); (viii) B31.9-1996-Building Services Piping (incorporated by reference, see § 851.27); (ix) B31.11-2002-Slurry Transportation Piping Systems(incorporated by reference, see § 851.27) ; and (x) B31G-1991-Manual for Determining Remaining Strength of Corroded Pipelines (incorporated by reference, see § 851.27).	P-DB-J-00002, <i>SWPF Design Criteria Database</i> , Item # 807 P-DB-J-00005, <i>Next Generation Solvent Deployment at Salt Waste Processing Facility Design Criteria Database</i>	PP-EN-5003, <i>Specifications</i>  * SWPF code of record remains the versions of the BPVC standards listed; however, any new major modifications will evaluate the newer version of these standards listed in 851
(3) The strictest applicable state and local codes.	P-DB-J-00002, <i>SWPF Design Criteria Database</i> , Item # 807 P-DB-J-00005, <i>Next Generation Solvent Deployment at Salt Waste Processing Facility Design Criteria Database</i>	

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
(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. Measures must include the following:	National consensus codes do apply. Implementation documentation listed below:	
(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.		PP-EN-5005, <i>Intradiscipline Checking</i>
(2) Qualified personnel must be used to perform examinations and inspections of materials, in-process fabrications, non-destructive tests, and acceptance test.		DP-QA-4706, <i>QA Assessment of Item and Service Procurement</i>
(3) Documentation, traceability, and accountability must be maintained for each pressure vessel or system, including descriptions of design, pressure, testing, operation, repair, and maintenance.		PP-PR-6012, <i>Preparation and Change Management of Requisitions</i>
<b>5. Firearms safety</b>		
(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	
(1) Written procedures must address firearms safety, engineering and administrative controls, as well as personal protective equipment requirements.	Not Applicable	

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
(2) As a minimum, procedures must be established for: (i) Storage, handling, cleaning, inventory, and maintenance of firearms and associated ammunition;	Not Applicable	
(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	
(iii) Use and storage of pyrotechnics, explosives, and/or explosive projectiles;	Not Applicable	
(iv) Handling misfires, duds, and unauthorized discharges;	Not Applicable	
(v) Live fire training, qualification, and evaluation activities;	Not Applicable	
(vi) Training and exercises using engagement simulation systems;	Not Applicable	
(vii) Medical response at firearms training facilities; and	Not Applicable	
(viii) Use of firing ranges by personnel other than DOE or DOE contractor protective forces personnel.	Not Applicable	
(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	

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
(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	
(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	
(e) Contractors must implement procedures related to firearms training, live fire range safety, qualification, and evaluation activities, including procedures requiring that:	Not Applicable	
(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	
(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	

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
(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 336 set forth by the Safeguards and Security Central Training Academy's standard training programs;	Not Applicable	
(4) Firearms safety briefings must immediately precede training, qualifications, and evaluation activities involving live fire and/or engagement simulation systems;	Not Applicable	
(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	
(6) Firing range safety procedures must be conspicuously posted at all range facilities; and	Not Applicable	
(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	
(f) Contractors must ensure that the transportation, handling, placarding, and storage of munitions conform to the applicable DOE requirements.	Not Applicable	

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
<b>6. Industrial hygiene</b>		
<p>Contractors must implement a comprehensive industrial hygiene program that includes at least the following elements: (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;</p>	<p>PL-SH-4300, <i>SWPF Industrial Hygiene Program Plan</i>                      PL-LB-8100, <i>SWPF Analytical Laboratory Chemical Hygiene Plan</i></p>	<p>PP-SH-4440, <i>Occupational Noise Exposure Prevention and Control/Hearing Conservation</i>                      PP-SH-4441, <i>Ergonomics</i>                      PP-SH-4442, <i>Respiratory Protection</i>                      PP-SH-4443, <i>Air Monitoring</i>                      PP-SH-4444, <i>Heat Stress/Cold Stress Prevention</i>                      PP-SH-4460, <i>Hazard Communication</i>                      PP-SH-4461, <i>Safety Handling, Use, and Storage of Chemicals</i>                      PP-SH-4462, <i>Carcinogen Control Procedure</i>                      PP-SH-4407, <i>Job Hazard Analysis</i>                      PP-SH-4445, <i>Confined Spaces</i>                      PP-SH-4446, <i>Bloodborne Pathogens Exposure Prevention and Control</i>                      PP-SH-4447, <i>Laser Safety</i>                      DP-SH-4301, <i>Performance of Industrial Hygiene Exposure Assessment</i></p>
<p>(b) Coordination with planning and design personnel to anticipate and control health hazards that proposed facilities and operations would introduce;</p>	<p>PL-SH-4300, <i>SWPF Industrial Hygiene Program Plan</i>                      S-EIP-J-00003, <i>SWPF Industrial and Chemical Safety Design Review.</i></p>	<p>PP-NS-5507, <i>SWPF Unreviewed Safety Questions</i>                      PP-SH-4407, <i>Job Hazard Analysis</i>                      V-PHR-J-00007, <i>SWPF Hazards Analysis</i>                      V-PHR-J-00006, <i>SWPF Next Generation Solvent Conceptual Design Hazard and Operability Review Summary Report</i></p>

Appendix A. Worker Safety and Health Program Requirements (cont.)

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
(c) Coordination with cognizant occupational medical, environmental, health physics, and work planning professionals;	PL-SH-4300, <i>SWPF Industrial Hygiene Program Plan</i> PL-LB-8100, <i>SWPF Analytical Laboratory Chemical Hygiene Plan</i>	PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i> PP-OP-8523, <i>Work Authorization and Release</i> PL-OP-8526, <i>SWPF Chemical Control Plan</i> PP-OP-8525, <i>Chemical Receipt and Inventory Control</i> PP-SH-4461, <i>Safe Handling, Use and Storage of Chemicals</i> V-PHR-J-00007, <i>SWPF Hazards Analysis</i>
(d) Policies and procedures to mitigate the risk from identified and potential occupational carcinogens;	PL-SH-4300, <i>SWPF Industrial Hygiene Program Plan</i> PL-LB-8100, <i>SWPF Analytical Laboratory Chemical Hygiene Plan</i>	PP-SH-4460, <i>Hazard Communication</i> PP-SH-4462, <i>Carcinogen Control Procedure</i>
(e) Professionally and technically qualified industrial hygienists to manage and implement the industrial hygiene program; and	PS-01, <i>SWPF Integrated Safety Management System Policy</i> PL-TR-1801, <i>Personnel Selection, Training And Qualification Plan</i>	SWPF Training Program, <i>Qualification Detail Records by Employee</i>
(f) Use of respiratory protection equipment tested under the DOE Respirator Acceptance Program for Supplied-air Suits when National Institute for Occupational Safety and Health-approved respiratory protection does not exist for DOE tasks that require such equipment. For security operations military type masks for respiratory protection by security personnel is acceptable.		PP-SH-4442, <i>Respiratory Protection</i> PP-SH-4414, <i>Personal Protective Equipment</i>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
<b>7. Biological Safety</b>		
(a) Contractors must establish and implement a biological safety program that: (1) Establishes an Institutional Biosafety Committee (IBC) or equivalent. The IBC must:	Not Applicable	
(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	
(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	
(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	
(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	

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
(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	
(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	
(6) Establishes an immunization policy for personnel working with biological etiologic agents based on the evaluation of risk and benefit of immunization.	Not Applicable	
<b>8. Occupational Medicine</b>		
(a) Contractors must establish and provide comprehensive occupational medicine services to workers employed at a covered work place who: (i) Work on a DOE site for more than 30 days in a 12-month period; or		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
(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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(1) Contractors must provide the occupational medicine providers with access to information on the following: (i) Current information about actual or potential work-related site hazards (chemical, radiological, physical, biological, or ergonomic);		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(ii) Employee job-task and hazard analysis information, including essential job functions;		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(iii) Actual or potential work-site exposures of each employee; and		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(iv) Personnel actions resulting in a change of job functions, hazards or exposures.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(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);		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
(3) Contractors must provide the occupational medicine provider information on, and the opportunity to participate in, worker safety and health team meetings and committees;		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(4) Contractors must provide occupational medicine providers access to the workplace for evaluation of job conditions and issues relating to workers' health.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(e) A designated occupational medicine provider must: (1) Plan and implement the occupation medicine services; and		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(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).		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
(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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(1) Workers must be informed of the purpose and nature of the medical evaluations and tests offered by the occupational medicine provider.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(i) The purpose, nature and results of evaluations and tests must be clearly communicated verbally and in writing to each worker provided testing;		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(ii) The communication must be documented in the worker’s medical record; and		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
(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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(v) At the time of separation from employment, individuals shall be offered a general health evaluation to establish a record of physical condition.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
(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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(1) The contractor must include programs to prevent and manage these causes of morbidity when evaluations demonstrate their cost effectiveness.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</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:		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(1) Contractor-sponsored or contractor-supported EAPs;		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(2) Contractor-sponsored or contractor-supported alcohol and other substance abuse rehabilitation programs; and		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(3) Contractor-sponsored or contractor-supported wellness programs.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
(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.		PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
(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.	V-ESR-J-00012, <i>SWPF Emergency Response Interface Control Document (ICD-12)</i>	PP-SH-4451, <i>Occupational Medicine and Fitness for Duty</i>
<b>9. Motor Vehicle Safety</b>		
(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).		PP-SH-4430, <i>Motor Vehicle Safety</i>
(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.		PP-SH-4430, <i>Motor Vehicle Safety</i>
(c) The motor vehicle safety program must address, as applicable to the contractor’s operations: (1) Minimum licensing requirements (including appropriate testing and medical qualification) for personnel operating motor vehicles and powered industrial equipment;		PP-SH-4430, <i>Motor Vehicle Safety</i>
(2) Requirements for the use of seat belts and provision of other safety devices;		PP-SH-4430, <i>Motor Vehicle Safety</i>
(3) Training for specialty vehicle operators;		PP-SH-4430, <i>Motor Vehicle Safety</i>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
(4) Requirements for motor vehicle maintenance and inspection;		PP-SH-4430, <i>Motor Vehicle Safety</i>
(5) Uniform traffic and pedestrian control devices and road signs;		PP-SH-4430, <i>Motor Vehicle Safety</i>
(6) On-site speed limits and other traffic rules;		PP-SH-4430, <i>Motor Vehicle Safety</i>
(7) Awareness campaigns and incentive programs to encourage safe driving; and		PP-SH-4430, <i>Motor Vehicle Safety</i>
(8) Enforcement provisions.		PP-SH-4430, <i>Motor Vehicle Safety</i>
<b>10. Electrical Safety</b>		
10. Electrical Safety. 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.	PL-MN-8705, <i>SWPF Electrical Safety Program Plan</i>	PP-SH-4470, <i>Working on or Near Energized Electrical Equipment</i> PP-SH-4471, <i>Working Near Overhead Power Lines or Hazardous Pipes</i> PP-CONOPS-10, <i>Lockout/Tagout Program</i>

**Appendix A. Worker Safety and Health Program Requirements (cont.)**

10 CFR 851 CITATION	Parsons Policy and Commitment Basis	Other Implementing Provisions
<b>Appendix A</b>		
<b>11. Nanotechnology—Reserved</b>		
<b>12. Workplace Violence Prevention—Reserved</b>		
<b>Appendix B</b>		
<p>IX(b)(5)(c) DOE will use the voluntary Noncompliance Tracking System (NTS) which allows contractors to elect to report noncompliances. In the guidance document supporting the NTS, DOE will establish reporting thresholds for reporting noncompliances of potentially greater worker safety and health significance into the NTS. Contractors are expected, however, to use their own self-tracking systems to track noncompliances below the reporting threshold. This self-tracking is considered to be acceptable self-reporting as long as DOE has access to the contractor’s system and the contractor’s system notes the item as a noncompliance with a DOE safety and health requirement. For noncompliances that are below the NTS reportability thresholds, DOE will credit contractor self-tracking as representing self-reporting. If an item is not reported in NTS but only tracked in the contractor’s system and DOE subsequently determines that the noncompliance was significantly mischaracterized, DOE will not credit the internal tracking as representing appropriate self-reporting.</p>	<p>The CFR will be used as the source document for all enforcement concerns.</p>	

**SALT WASTE PROCESSING FACILITY ABATEMENT  
PLAN FOR NATIONAL FIRE PROTECTION  
ASSOCIATION 70E**

## **1.0 DISCUSSION**

The Technical Amendment (TA) for Title 10, Code of Federal Regulations (CFR), 851, *Worker Safety and Health Program*<sup>1</sup> (WSHP), published on December 18, 2017, updates the references to the National Fire Protection Association (NFPA) consensus standards for an electrical safety program. The U.S. Department of Energy (DOE)-Savannah River provided direction to ensure the guidance issued in *Title 10, code of Federal Regulations, Part 851, Worker Safety and Health Program, Incorporation by Reference Technical Amendment*<sup>2</sup> is implemented during preparation of its 2018 Annual WSHP Update. The Salt Waste Processing Facility (SWPF) project has evaluated the updates and determined that full compliance is not achievable by the required date of January 17, 2019. Per *Title 10, code of Federal Regulations, Part 851, Worker Safety and Health Program, Incorporation by Reference Technical Amendment*<sup>2</sup>, the following is justification and documentation for risk, interim worker protective measures, cost, and an implementation schedule for short- term and long term abatement actions.

The preliminary assessment identified compliance gaps as identified in Table 1. SWPF completed a detailed gap analysis between NFPA 70E-2004, *Standard for Electrical Safety in the Workplace*<sup>3</sup>, and NFPA 70E-2015, *Standard for Electrical Safety in the Workplace*<sup>4</sup>, and drew a few basic conclusions. First, a number of changes have been made in the details of how an alternating current (AC) arc flash program is to be implemented. However, the fundamentals safety practices remain the same. Therefore, the existing safety practices for AC power systems outlined in NFPA 70E 2004<sup>3</sup> and implemented in PM-OP-8501, *SWPF Operations Safety Manual*<sup>5</sup> (PP-SH-4470, *Working On or Near Energized Electrical Equipment*) and PP-CONOPS-10, *Lockout/Tagout Program*<sup>6</sup>, provide adequate personnel protection from potential exposure to energized AC power circuits in the interim period while changes are made to supporting calculations, implementing procedures, and personnel training. Likewise, existing SWPF electrical maintenance practices are relatively new and based on manufacturers recommendations. Therefore, the practices are considered adequate pending a full review.

A programmatic gap was identified related to direct current (DC) power systems requirements between NFPA 70E-2004<sup>3</sup> and NFPA 70E-2015<sup>4</sup>. The current SWPF arc flash procedures do not explicitly address DC power system requirements. At SWPF, the one DC power system of concern is the Uninterruptible Power Supply (UPS) batteries. DC arc flash calculations were performed for the UPS batteries and were determined to be Level 0.

Parsons chartered an independent review of the NFPA 70E-2018, *Standard for Electrical Safety in the Workplace*<sup>7</sup>, requirements and actions required to bring facility procedures, processes, and programs into compliance with NFPA 70E-2018<sup>7</sup>. An implementation plan to achieve compliance with NFPA 70E-2018<sup>7</sup> no later than the end of one year of operations was submitted to the DOE for review on August 19, 2019 (see 00-700-27650, *Implementation Strategy for NFPA 70E-2018 SRPT-J-00013*<sup>8</sup>). DOE concurred with the plan on August 26, 2019 (see CMD-19-201, *Implementation Strategy for National Fire Protection Association [NFPA] 70E-2018 [Standard for Electrical Safety in the Workplace]*<sup>9</sup>) and directed a proposal be submitted. The proposal is on track for submittal by November 24, 2019.

This delayed implementation of NFPA 70E 2018<sup>7</sup> allows for the systematic review and implementation of program changes outside the window when the facility will be undergoing readiness reviews and startup. Introduction of major program and procedure changes in the middle of startup is judged to be a larger safety risk than delayed NFPA 70E-2018<sup>7</sup> implementation. Likewise, delayed facility startup [i.e., delayed high-level waste removal and material stabilization] is judged a larger safety risk than risks from delayed NFPA 70E-2018<sup>7</sup> implementation.

Table 1-2 addresses the schedule for near term abatement actions and development of the implementation plan. While the bulk of the review effort and supporting engineering effort was completed in 2019 prior to initial radiological operations, the field implementation of procedure revisions, equipment labeling, and training will be delayed until after start of radiological operations to avoid significant program changes during the readiness review time period. Table 3 is a rough order magnitude estimate pending development of the implementation plan. Costs of activities remain consistent with previous estimates provided however the more detailed review is expected to identify other items and as such SWPF reserves the right to adjust the impact assessment as the evaluation progresses.

**Table 1-1. Preliminary Compliance Gaps  
NFPA 70E-2004 to NFPA 70E-2018**

NFPA 70E 2018 Article	Change or New requirement	Impact	Short-term Abatement action
110.2(C) (2)(d)	First Aid, Emergency Response, and Resuscitation refresher training shall occur annually (2015) Training shall occur at frequency that satisfies certifying agency (2018)	SWPF requires 2 year retraining No change required for NFPA 70E-2018 <sup>7</sup> adoption, which allows 2-year retraining frequency.	None. Existing program adequate pending program update
110.4(D)	Only a qualified person can repair and test portable equipment that has been damaged (2015)	Not explicitly addressed in SWPF procedures	None. Existing program adequate pending program update
110.5(A)	Portable equipment shall be handled and stored in manner that will not cause damage (2015)	Addressed in portable electrical equipment section of electrical safety plan	None. Existing program adequate pending program update

**Table 1-1. Preliminary Compliance Gaps (cont.)  
NFPA 70E-2004 to NFPA 70E-2018**

NFPA 70E 2018 Article	Change or New requirement	Impact	Short-term Abatement action
110.6(B)	GFCI protection shall be provided when operating or using cord sets or cord and plug connected tools for any maintenance or construction type activity supplying 125V, 15-, 20- or 30- ampere circuit. GFCI protection or an assured equipment grounding program must be used when operating or using cord sets or cord and plug connected tools for maintenance or construction type activity supplying other than 125V, 15-, 20- or 30- ampere circuit. (2012, 2015)	Use of ground-fault circuit interrupter (GFCI) for portable electric hand tools is addressed in PL-MN-8705, <i>SWPF Electrical Safety Program Plan</i> <sup>10</sup> . Document change to better align wording	None. Existing program adequate pending program update
110.6(C)	GFCI protection shall be provided when employee is outdoors and operating or using cord sets or cord and plug connected tools supplied by 125V, 15-, 20- or 30- ampere circuit. Where employees working outdoors operate or use equipment supplied by greater than 125V, 15-, 20- or 30-ampere circuit, GFCI protection or an assured equipment grounding program shall be utilized. (2012, 2015)	Use of GFCI for portable electric hand tools is addressed in PL-MN-8705 <sup>10</sup> . Document change to better align wording	None. Existing program adequate pending program update
130.4(D) Table	Some of the voltage ranges and restricted approach distances revised  Prohibited Approach Boundary deleted from Table (2015)	Detail change to procedure	None. Existing program adequate pending program update
130.5(G)	Table 130.5(G) identifies arc rated clothing and other	Detail change to procedure	None. Existing program adequate pending program update

**Table 1-1. Preliminary Compliance Gaps (cont.)  
NFPA 70E-2004 to NFPA 70E-2018**

NFPA 70E 2018 Article	Change or New requirement	Impact	Short-term Abatement action
	PPE for use with incident energy analysis method The range for >1.2 to 2.0 calories/cm <sup>2</sup> is deleted (2012, 2015)		
130.6(F)	Confined or enclosed work space with exposed conductors shall use protective shields, barriers, insulating materials (2012)	Detail change to procedure	None. Existing program adequate pending program update
130.6(G)	Doors, hinged panels, and the like shall be secured if movement of door or panel is likely to create hazard	Detail change to procedure	None. Existing program adequate pending program update
130.7(C) (3)	Hair nets and beard nets shall be arc rated if used (2009, 2012)	Detail change to procedure	None. Existing program adequate pending program update
130.7(C) (9)(d)	Shirts and sleeves shall be fastened at wrists, shirts tucked in pants and closed at neck (2015)	Detail change to procedure	None. Existing program adequate pending program update
130.7(C) (10)(d)	Informational note provides criteria for heavy duty leather gloves (2012)	Detail change to procedure	None. Existing program adequate pending program update
130.7(C) (12)	Hazard Risk Category 0 deleted (2015)	Detail change to procedure Additional personal protective equipment required for incident energy range of 1.2 to 2.0 calories	None. Existing program adequate pending program update
130.7(C) (15)(b) Table	Arc Flash PPE Categories for Direct Current Systems – Parameters: a) Greater than or equal to 100 V and less than or equal to 250 V, b) Greater than 250 V and less than or equal to 600 V (2012)	DC not explicitly addressed in SWPF procedures. UPS battery banks operate at nominal 432 Volts DC	Arc Flash calculations determined UPS batteries to be Level 0

**Table 1-1. Preliminary Compliance Gaps (cont.)  
NFPA 70E-2004 to NFPA 70E-2018**

NFPA 70E 2018 Article	Change or New requirement	Impact	Short-term Abatement action
130.7(D)(1)	Use insulated tools or handling equipment where they might make unintentional contact with exposed energized parts (2015)	Already addressed in SWPF procedure - may require detail revision	None. Existing program adequate pending program update
130.7(D)(1)(e)	Portable ladders shall have non- conductive side rails where employee or ladder could contact exposed energized parts (2009, 2018)	Although insulated ladders are typically used, there is no process requirement	PM-OP-8501 <sup>5</sup> (PP-SH-4470) modified to require use of insulated ladder if employee/ladder could contact exposed energized conductors
205.7	Covers and doors shall be in place with all associated fasteners and latches secured (2015)	Implemented at SWPF - may require detail change to procedure	None. Existing program adequate pending program update
225.1	Non-current limiting fuses shall not be modified to allow insertion into current limiting fuse-holder (2015)	Implemented at SWPF - may require detail change to procedure	None. Existing program adequate pending program update
250.3(C)	Grounding and testing devices stored in clean and dry area. Inspected and tested before each use (2009)	Implemented at SWPF - may require detail change to procedure	None. Existing program adequate pending program update
100	New/revised definitions (2009, 2012, 2015, 2018)	Detail change to procedure	None. Existing program adequate pending program update
110.1(B)	Electrical safety program shall include inspection of modified and newly installed electrical equipment for compliance with codes and standards (2018)	Change to procedure	None. Existing program adequate pending program update
110.1(C)	Electrical safety program shall consider condition of maintenance (2012)	Implemented at SWPF due to new equipment - may require detail change to procedure	None. Existing program adequate pending program update
110.1(H)	Electrical safety program shall include a risk assessment procedure (2015)	Change to procedure	None. Existing program adequate pending program update

**Table 1-1. Preliminary Compliance Gaps (cont.)  
NFPA 70E-2004 to NFPA 70E-2018**

NFPA 70E 2018 Article	Change or New requirement	Impact	Short-term Abatement action
110.1(H)(3)	Electrical safety program shall require a hierarchy of risk control methods (2018)	Implemented at SWPF - may require detail change to procedure	None. Existing program adequate pending program update
110.1(I)	Employee in charge shall complete a documented Job Safety Plan that includes the arc and shock risk assessment (2018)	Implemented at SWPF - may require detail change to procedure Currently included in Pre-Job Briefings	None. Existing program adequate pending program update
110.1(K)(1)	Electrical safety program shall be audited at an interval not to exceed every three years (2012)	Change to procedure Electrical safety program is currently assessed in quarterly Occurrence Reporting and Processing System trend report and engineering self-assessments	None. Existing program adequate pending program update
110.1(K)(2)	Electrical field work shall be audited at an interval not to exceed every year (2012, 2015)	Change to procedure	None. Existing program adequate pending program update
110.1(K)(3)	Lockout/Tagout Program and Procedure Audit. Audit shall cover at least one lockout/tagout in progress annually	Addressed in PP-CONOPS-10, <i>Lockout/Tagout Program</i> <sup>6</sup> , and PL-OP-8519, <i>SWPF Plant Operations Annual Assessment Plan</i> <sup>11</sup> . May require slight procedure wording changes	None. Existing program adequate pending program update
110.2(A)(1)	Employer shall determine through supervision or inspection annually that each employee is complying with safety related work practices (2012)	Change to procedure First line managers continually assess electrical workers performance in field, Management Field observations , etc.. - level of rigor/documentation	None. Existing program adequate pending program update
120.3(A)	Location, sizing and application of grounds shall be identified as part of job plan (2015)	Implemented at SWPF - may require detail change to procedure	None. Existing program adequate pending program update

**Table 1-1. Preliminary Compliance Gaps (cont.)  
NFPA 70E-2004 to NFPA 70E-2018**

NFPA 70E 2018 Article	Change or New requirement	Impact	Short-term Abatement action
130.2(A)(4)	“Normal Operating Condition” defined for electrical equipment (2015)	Implemented at SWPF in Standard Operating Procedure and work orders - may require detail change to procedure	None. Existing program adequate pending program update
130.2(B)(1)	Energized Electrical Work Permit is required when work performed inside restricted approach boundary or when employee interacts with equipment or conductors that are not exposed but an increased likelihood of injury from exposure to arc flash exists (2015)	May require detail change to procedure depending on industry interpretation of the 'or increased risk' part of the requirements	None. Existing program adequate pending program update
130.2(B)(2)	Prohibited Approach Boundary deleted from contents of EEWP (2015)	Detail change to procedure	None. Existing program adequate pending program update
130.2(B)(3)	EEWP is not required for thermography or ultrasound when restricted distance not crossed (2015)	implemented at SWPF - may require detail change to procedure	None. Existing program adequate pending program update
130.5(B)	The arc flash risk assessment shall take into consideration the operating condition and condition of maintenance	Currently implemented at SWPF in Standard Operating Procedure and work orders may require detail change to procedure	None. Existing program adequate pending program update
130.5(G)	The incident energy analysis shall take into consideration the characteristics of the overcurrent device and its fault clearing time, including its condition of maintenance	Change to procedure	None. Existing program adequate pending program update

**Table 1-1. Preliminary Compliance Gaps (cont.)  
NFPA 70E-2004 to NFPA 70E-2018**

NFPA 70E 2018 Article	Change or New requirement	Impact	Short-term Abatement action
130.5(C) Table	Table 130.5(C) shall be permitted to be used to estimate the likelihood of occurrence of an arc flash event to determine if additional protective measures are required. The table includes multiple types of work tasks for three modes of equipment operating and maintenance condition (2015)	Detail change to procedure	None. Existing program adequate pending program update
130.5(H)	Electrical equipment to be field marked to indicate voltage, arc flash boundary and incident energy level or minimum arc rating of clothing. (2009, 2012, 2015)	Currently implemented at SWPF - Requires detail change to procedure	None. Existing program adequate pending program update
130.5(H)	Exception No. 2: Where only qualified persons monitor and service the system, the information required in this section shall be permitted to be documented in a manner that is readily available to persons likely to perform examination, servicing, maintenance and operation of equipment while energized. (2018)	Arc flash information (incident energy, arc flash boundary and voltage) is documented in a calculation and maintained in an electronic database that is readily available to persons that perform servicing, maintenance or operation.  This exception allows the information to be obtained by the worker from a database rather than a posted label.	None. Existing program adequate pending program update
130.4(D)(b) )	The DC Shock Protection Approach Boundaries Table shall be used for distances associated with dc system voltages. (2012)	Change in Procedure	PM-OP-8501 <sup>5</sup> (PP-SH-4470) modified to address DC Approach Boundaries
130.7(C)(7)(a)	Rubber insulating gloves shall be permitted for use without leather protectors under the following conditions. (2018)	Detail change to procedure	None. Existing program adequate pending program update

**Table 1-1. Preliminary Compliance Gaps (cont.)  
NFPA 70E-2004 to NFPA 70E-2018**

NFPA 70E 2018 Article	Change or New requirement	Impact	Short-term Abatement action
130.7(C) (14)	Suppliers and manufacturers of PPE shall demonstrate conformity with appropriate standard... Suppliers and manufacturers of PPE shall provide markings. (2018)	Detail change to procedure	None. Existing program adequate pending program update
130.7(C) (15)(b) Table	Arc Flash PPE Categories for Direct Current Systems – Parameters: a) Greater than or equal to 100 V and less than or equal to 250 V, b) Greater than 250 V and less than or equal to 600 V (2012)	DC not currently addressed on SWPF Arc flash procedures.	PM-OP-8501 <sup>5</sup> (PP-SH-4470). Modify program to require default Arc Flash Personal Protective Equipment for work above 100 Volts DC pending completion of DC arc flash calculations
205.3	Electrical equipment maintained in accordance with manufacturer’s instructions or industry consensus standards (2012)	Current SWPF practice (new equipment) - may require detail change to procedure	None. Existing program adequate pending program update
205.4	Overcurrent protective devices maintained in accordance with manufacturer’s instructions or industry consensus standards (2009)	Current SWPF practice (new equipment) - may require detail change to procedure	None. Existing program adequate pending program update
130.8(B)	Only qualified persons can determine insulation rating for overhead electrical conductors (2012)	Detail change to procedure - not actually performed by SWPF at this time	None. Existing program adequate pending program update
320.3 (A)(5)	Instrumentation for alarms of abnormal battery operation tested annually (2015)	DC/battery not addressed in SWPF electrical procedures. Research of maintenance procedures needed to determine current practices. Change to procedure required	None. Existing program adequate pending program update

**Table 1-2. Compliance Implementation Schedule NFPA 70E – 2018  
Phase I – Near-term abatement actions and development of the Implementation Plan**

Activity	Start	Complete
A. Revise PP-SH-4470 to address interim DC arc flash controls and use of insulated ladders	11/01/18	Complete
B. Flag DC battery PM and model CM work packages	11/01/18	Complete
C. Brief QEW’s on DC arc flash changes and ladder requirements	12/01/18	Complete
D. Implement DC arc flash changes	12/01/18	Complete
E. Submittal of Implementation plan		Complete
<b>Phase II – Actions supporting Contract alignment with Implementation Plan</b>		
Submit proposal for full implementation	08/24/19 (assumes DOE approval of the Implementation Plan within 10 working days of submittal)	11/24/19 (based on 90 calendar days after DOE approval of the Implementation Plan)
<b>Phase III – Execution of the Implementation Plan</b>		
Implement proposal	3/1/2020 or as approved in the Implementation Plan (Based on completing Hot Commissioning and achieving normal operations)	12/31/2020 or as approved in the Implementation Plan (Based on completing Hot Commissioning and achieving normal operations by 3/1/2020)
* Schedule dates are contingent upon receipt of funding and approvals		

**Table 1-3. Summary Estimated Costs**

Phase	One Time Cost Estimates
Phase I	\$650K
Phase II	N/A
Phase III	\$650K*
<b>Total Cost</b>	<b>\$1.3M</b>

\*Rough Order of Magnitude estimate to be updated after implementation plan development.

## REFERENCES

- <sup>1</sup> 10 CFR 851, *Worker Safety and Health Program*.
- <sup>2</sup> *Title 10, code of Federal Regulations, Part 851, Worker Safety and Health Program, Incorporation by Reference Technical Amendment*. Memorandum From M. B. Moury (DOE) for Distribution. U.S. Department of Energy, Washington, D.C. March 13, 2018.
- <sup>3</sup> NFPA 70E-2004, *Standard for Electrical Safety in the Workplace*. National Fire Protection Association, Quincy, Massachusetts.
- <sup>4</sup> NFPA 70E-2015, *National Electrical Code*. National Fire Protection Association, Quincy, Massachusetts.
- <sup>5</sup> PM-OP-8501, *SWPF Operations Safety Manual*. Parsons, Aiken, South Carolina.
- <sup>6</sup> *Salt Waste Processing Facility Project Procedures Manual*. Parsons, Aiken, South Carolina.
- <sup>7</sup> NFPA 70E 2018, *Standard for Electrical Safety in the Workplace*. National Fire Protection Association, Quincy, Massachusetts.
- <sup>8</sup> 00-700-27650, *Implementation Strategy for NFPA 70E-2018 SRPT-J-00013, Rev.2*, Revision 1. Letter from F. Sheppard, Jr. (Parsons) to P.A. Marks (DOE). Parsons, Aiken, South Carolina.
- <sup>9</sup> *Implementation Strategy for National Fire Protection Association [NFPA] 70E-2018 [Standard for Electrical Safety in the Workplace]*. Letter from J.A. Speering (DOE) to F. Sheppard, Jr. (Parsons). U.S. Department of Energy, Savannah River Site, Aiken, South Carolina. August 26, 2019.
- <sup>10</sup> PL-MN-8705, *SWPF Electrical Safety Program Plan*. Parsons, Aiken, South Carolina.
- <sup>11</sup> PL-OP-8519, *SWPF Plant Operations Annual Assessment Plan*. Parsons, Aiken, South Carolina.