

UPF Field Level Hazard Assessment/Job Hazard Analysis Program (FLHA/JHA) Process



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UPF Field Level Hazard Assessment/Job Hazard Analysis Program (FLHA/JHA) Process

REVISION LOG

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<ul style="list-style-type: none"> • Forms changes: <ul style="list-style-type: none"> ◦ UCN-23464, <i>Field Level Hazard Assessment (FLHA) Startup Testing</i> – Revised ◦ UCN-23544, <i>Field Level Hazard Assessment (FLHA) Startup Preventive Maintenance</i> – Revised ◦ CFN-1268, <i>UPF Tower Crane Operations STARRT Card</i> removed from this Procedure as it is no longer needed/required and Y17-95-64-823 was removed as its governing document • Removed Section 3.7, <i>Tower Crane Operations</i> • Removed references to ML-SU-801768-A001, <i>UPF Startup Hazard Tree</i> • Mentions of STARRT removed or replaced by FLHA where appropriate • Other changes include: <ul style="list-style-type: none"> ◦ Updated Section 4.0, <i>Records</i> ◦ Updated references and acronyms ◦ Editorial changes 	
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<ul style="list-style-type: none"> • Forms changes include: <ul style="list-style-type: none"> ◦ Obsoleted UCN-23162, <i>Safety Task Analysis and Risk Reduction Talk (STARRT) Card</i> ◦ Created new form UCN-23552, <i>Field Level Hazard Assessment (FLHA) Card</i> ◦ Created new form UCN-23554-E, <i>JHA Briefing Attendance Sheet</i> • An evaluation determination has been performed confirming that this Procedure does implement requirements tracked in the Programmatic Requirements Management System (PRMS) • These changes (include details regarding exact changes) are in response to Condition Report 25774-000-GCA-GAM-04038, <i>Failure to Sustain Corrective Actions Taken for Dropped Object Prevention at UPF [**CA]</i> • Updated Section 3.3.9 to clarify how JHAs are submitted to InfoWorks and to indicate the requirement for physical copies of JHAs be made available in the field during the FLHA process • Added Section 3.5.1, <i>Field Level Hazard Assessment Philosophy</i> • Added Section 3.5.3, <i>Example FLHA Questions for Overhead Work</i> • Changed title of document from “UPF Safety Task Analysis and Risk Reduction Talk/Job Hazard Analysis Program (STARRT/JHA) Process” to “UPF Field Level Hazard Assessment/Job Hazard Analysis Program (FLHA/JHA) Process” • STARRT replaced by FLHA where appropriate • Other changes include: <ul style="list-style-type: none"> ◦ Updated records and references ◦ Updated acronyms ◦ Editorial changes • This revision is a total rewrite; due to the extent of changes, revision bars are not shown 	
Previous revisions on record	

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1.0 INTRODUCTION

Job Hazard Analyses (JHAs) that have been approved prior to the effective date of Revision 6 of this Procedure do not require immediate revision in order to be compliant with this Procedure. When existing JHAs are revised or the work activity (i.e., Construction Work Package [CWP], Startup Test/Operating Instruction) has a Change Request processed, the JHAs shall be updated using the hazard controls/mitigations defined in ML-CM-801768-A019, *UPF Hazard Tree*.

This revision of the Procedure introduces the new FLHA process and associated card for pre-task briefings.

1.1 Purpose

This Procedure defines the work process for developing, issuing, using, and revising JHA documentation at the Y-12 National Security Complex (Y-12) Uranium Processing Facility (UPF) construction site. This Procedure also defines the methodology and requirements for the Field Level Hazard Assessment (FLHA) process.

This Procedure focuses on the second and third functions of the Integrated Safety Management System (i.e., "Identify and Analyze Hazards" and "Develop and Implement Hazard Controls," respectively).

The identification and analysis of work area hazards and the development of controls/mitigations to address the work area hazards during work are critical to the safe and successful performance of work on the UPF Project.

1.2 Scope

All direct and managed (i.e., subcontracted) UPF Construction and Startup employees shall participate in the JHA/FLHA process and use it as the primary tool for planning.

Requirements for Subcontractors performing activities are as described in the Supplemental Conditions of the contracting documents. Subcontractors may submit JHAs for work scopes to be performed; these JHAs will be formal contract submittals and the Subcontract Technical Representative (STR) will approve them after review by an Environmental, Safety, and Health (ES&H) Representative and pertinent organizations.

This Procedure also applies to Startup Testing in accordance with MNL-SU-801768-A001, *UPF Startup Test Program Manual*, and applies to preventive maintenance activities in accordance with Y15-95-921, *UPF Startup Preventive Maintenance*. The JHA and FLHA processes shall be used to identify the potential task-specific ES&H hazards associated with UPF field work activities and to define the specific controls and/or actions required to eliminate or minimize the hazard risks.

2.0 RESPONSIBILITIES

NOTE: *Assigned authorities/responsibilities described may be delegated to a designee(s).*

2.1 UPF Site Manager/Project Startup Manager

The UPF Site Manager/Project Startup Manager (PSUM) is responsible for ensuring:

- This Procedure is effectively implemented
- Work activities comply with the requirements of this Procedure

2.2 UPF Field Engineer/Subcontract Technical Representative/Startup Test Lead

The UPF Field Engineer (FE)/STR/Startup Test Lead (STL) is responsible for the following direct-managed work scopes:

- Coordinating with the Responsible Superintendent/Startup Test Engineer (STE) to determine members of the JHA Development Team beyond the required minimum

2.3 UPF Environmental, Health, and Safety Representative

The UPF ES&H Representative is responsible for:

- Coordinating with UPF Construction Superintendents, STLs, STEs, Craft, and FEs to develop a list of hazard mitigations and controls for use in UPF JHAs
- Ensuring hazard controls and mitigations are institutionalized and controlled in accordance with ML-CM-801768-A019

2.4 Job Hazard Analyses Development Team

The JHA Development Team is responsible for:

- Reviewing the work scope, including the proposed methods of accomplishment
- Participating in the physical Walkdown of the work scope, or in a table-top review of the work scope, in order to identify hazards
- Being familiar with the jobsite, either by participating in the JHA Walkdown, visiting the site prior to development of the JHA, or having general knowledge of the area
- Contributing to the development of hazard controls/mitigations for each identified hazard
- Participating, as needed, in the revision of JHAs

2.5 UPF Responsible Superintendent/Craft Foreman/Startup Test Engineer

The UPF Responsible Superintendent/Craft Foreman/STE is responsible for:

- Facilitating the JHA development process, including:
 - Assembling the JHA Development Team
 - Reviewing the work scope with the JHA Development Team
 - Performing either a physical Walkdown or table-top review of the work scope with the JHA Development Team
- Documenting identified hazards associated with the work scope, and coordinating the development of hazard controls

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- Coordinating with the FE to determine members of the JHA Development Team (beyond the required minimum) (Not applicable for Startup Test/Operating Instructions)
- Conducting the JHA Development Team's work area Walkdown
- Facilitating the revision of JHAs
- Ensuring—when work activities, scope, or work area conditions change to the extent that different or additional hazards are present, or existing controls are not effective—the work is suspended, the work area is placed into a safe condition, and the JHA is revised to properly identify and analyze the hazards, and develop effective hazard controls
- Ensuring the FLHA process is implemented
- Ensuring completed UCN-23552, *Field Level Hazard Assessment (FLHA) Card*, or UCN-23464, *Field Level Hazard Assessment (FLHA) Startup Testing*, forms are maintained in accordance with this Procedure
- Reviewing and signing all applicable FLHA cards or assigning a designee to do so

3.0 PROCESS

The following sections describe the process for review of the work scope, identification of the hazards associated with the work scope, and the process and requirements for defining the controls in JHA documentation to mitigate the risk for the identified hazards. Revision of the JHA documentation and the process for use of the FLHA process are also included.

3.1 Review Work Scope

The Responsible Superintendent/STR/STL is responsible for the items listed in **Section 3.1.1** through **Section 3.1.4**.

- 3.1.1 Review the work scope in CFN-1016A, *UPF Work Package Scope and Approvals*, and review the JHAs referenced on CFN-1021A, *UPF Work Package/Startup Instruction Pre/Mid-Job Briefing*, or the Startup Test/Operating Instruction to ensure:
- The work scope is described in sufficient detail, including work scope boundaries
 - It is known how work will be performed, as well as who will be performing the work, to allow for hazard identification
- 3.1.2 If hazards/controls are not covered by an existing JHA, assemble a JHA Development Team and review the work scope. Ensure the work scope boundaries and work task, including work location(s), starting point, and ending point, are reviewed with the team members.
- 3.1.3 At minimum, the following personnel shall be on the JHA Development Team:
- ES&H representative(s)
 - Responsible Superintendent/STE
 - FE/STL for direct-managed work scope
 - STR for subcontracted work

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- Discipline-specific Craft representative (e.g., pipefitter, electrician, boilermaker, depending on work scope)
- Other support disciplines and/or subject matter experts, as appropriate to work scope (e.g., Radiological Control Organization representative for work in contaminated/radiological areas)

3.1.4 Based on work scope and absence of existing JHAs or other hazard control documents (e.g., UCN-23350, *Exposure Control Plan*), determine if a physical Walkdown or a table-top review of the work scope must be performed.

3.2 Identify and Analyze Hazards

3.2.1 JHA preparation shall begin by using the current ES&H Risk Register as a reference to identify risks and mitigation measures resulting from best practices and lessons learned associated with ongoing project activities. The JHA must have more detailed risk assessment than what is included in the ES&H Risk Register and must be tailored to specific work conditions and sequential tasks. This risk assessment must include potential environmental, safety, and health hazards and potential impacts. Mitigation measures and opportunities to lower or eliminate risks must be identified (refer to UPF-CP-105, *Risk Assessment and Objectives*).

3.2.2 IF the JHA Development Team is in agreement that a physical Walkdown is not required or feasible, THEN perform a table-top review of the work scope's anticipated work activity hazards.

3.2.3 The Responsible Superintendent/STR/STL shall assemble the JHA Development Team at the designated work location to perform a Walkdown or assemble the team in another location to perform the table-top review.

3.2.4 For CWPs and Startup activities, document the Walkdown/evaluation on CFN-1021A, and have the JHA Development Team sign as applicable.

3.3 Develop Hazard Controls

JHAs may be documented using CFN-1158, *UPF Job Hazard Analysis*, or an approved electronic application (i.e., TEAMWorks, Q4 Safety). To maintain consistency, JHAs must be generated using hazard controls/mitigations defined in ML-CM-801768-A019.

The JHA Development Team is responsible for the items listed in **Section 3.3.1** through **Section 3.3.10**.

3.3.1 Apply the hierarchy of controls as follows:

- Elimination/substitution (e.g., less hazardous substance)
- Engineering control (e.g., glove boxes, ventilation controls)
- Administrative control (e.g., barricades, postings)
- Personal protective equipment

3.3.2 If hazards/controls are present that are not covered by an existing JHA or the respective Hazard Tree, then perform one of the following activities, as applicable:

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1. Issue a task-specific JHA
 2. Revise an existing JHA
 3. Revise the Construction/Startup Hazard Tree
- 3.3.3 Populate the JHA on CFN-1158, or in the Q4 Electronic Application (refer to **Appendix B, *Electronic Process Flow Chart***), by entering Work Activities and corresponding hazard controls/mitigations defined in ML-CM-801768-A019. Hazard controls may include, but are not limited to:
- Specialized training needed
 - Permits required
 - Need for a competent or qualified person
 - Specialized tools
 - Work methods and scheduling/sequencing of work tasks, including Hold Points
- 3.3.4 When complete, obtain signatures of all JHA Development Team members on the JHA developed.
- 3.3.5 Site Manager/PSUM signature authority has been delegated to the Responsible Superintendent for approval of JHAs. Refer to COI-CM-801768-A087, *Delegation of Construction Site Manager, 10 CFR 851 Signature Authority for Job Hazard Analysis (JHAs)*.
- 3.3.6 Forward the approved JHA to the Document Management Center (DMC) for processing.
- 3.3.7 Ensure the work crew and support discipline personnel are briefed on the JHA prior to starting work, and ensure all personnel document the briefing on the JHA by signature/date on CFN-1251, *UPF Construction/Startup Attendance Sheet*; or UCN-23554-E, *JHA Briefing Attendance Sheet*. The initial Pre-Job Briefing (CFN-1021A) and JHA Briefing may utilize the same CFN-1251. Multiple JHAs may be referenced on CFN-1021A to ensure all hazards are properly identified and mitigated.
- 3.3.8 Ensure any new members of the work crew and support discipline personnel are briefed on the JHA prior to starting work, and ensure briefed personnel sign and date CFN-1251 or UCN-23554-E for the current revision of the JHA. All attendance briefing documents will be submitted to the Training department for processing and submission to the UPF DMC.
- 3.3.9 Finalized JHAs are submitted to InfoWorks® for document retention. The Responsible Superintendent/Startup Test Engineer will ensure physical copies of the JHAs applicable to the Statement of Work (SOW) are available in the field to be used during the FLHA process.
- 3.3.10 Ensure all referenced documents and guidance materials (e.g., UCN-23353, *SDS Evaluation Form*; ML-SH-801768-A003, *UPF Gloves Matrix*) in the JHA are printed and retained with the JHA. All of these referenced documents and materials shall be available for craft to reference in the field during the FLHA process.

3.4 Revise Job Hazard Analyses

- 3.4.1 When work activities or scope of work change to the extent that additional hazards may be present, complete the following:
- 3.4.2 If the changes directly impact current work activities, suspend work and place the work in a safe condition.
- 3.4.3 Revise the JHA in accordance with **Section 3.2, Identify and Analyze Hazards**, and **Section 3.3, Development Hazard Controls**.
- 3.4.4 Obtain signature concurrences for the revision of the JHA.
- 3.4.5 Forward the revised JHA to the UPF DMC for processing.
- 3.4.6 Once JHAs developed with Q4 (refer to **Appendix B**) are approved in the Electronic Application, print out the revised JHA from the electronic application and place into the applicable package.
- 3.4.7 Provide the work crew with a secondary briefing on the revised JHA prior to work, and ensure personnel document the briefing on a new CFN-1251, or UCN-23554-E.

3.5 Field Level Hazard Assessment Process

FLHA is a pre-task briefing that must be used daily by crews at the beginning of their work shift or when new tasks are undertaken. It is a process of employee participation to identify and mitigate environmental, safety, and health risks and hazards associated with their planned work that day. The JHA process must not replace, or be a substitute for, the daily FLHA process.

FLHA affirms and supplements the content of the JHA as needed. It allows crews to identify risks and mitigation measures specific to their work shift, their individually assigned tasks, crew competencies, and current site and nearby conditions. It considers the immediate physical and human elements of the assigned work tasks.

3.5.1 Field Level Hazard Assessment Philosophy

Employee engagement and frontline leadership is the foundation of a successful ES&H culture and must be demonstrated and documented on the UPF Project.

FLHA briefings will be used to:

- Involve Workers in the evaluation of risks, in context of the JHA
- Achieve active participation by Workers in job planning
- Encourage group participation and shared learning
- Enhance Worker ownership of the ES&H program
- Provide real-time assessment of new and changing site conditions and daily schedules
- Facilitate mentoring and best approaches to work execution

Foreman must be trained on proper use of the FLHA process, especially encouraging crews to share individual perspectives on risk management, given their experience

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and knowledge about the tasks about to be performed. It is an opportunity for learning and shared participation when effectively executed.

The FLHA process cannot be a matter of checking of boxes on a form, but rather it must be an open and documented discussion of hazards and control measures associated with current site conditions and immediate tasks. Importantly, the discussion serves to confirm employee understanding of ES&H expectations and issues and should help achieve individual ownership of ES&H responsibilities.

Field supervision, ES&H, construction management, and project management personnel should attend FLHA meetings frequently to confirm their quality and listen to the hazard assessments and controls discussed by employees. Employee comments should be used to improve training, future JHAs, and the ES&H Risk Register. Field observations of FLHA meetings will be documented utilizing Chekhov as described in DI-SH-801768-A006, *UPF Chekhov Field Observation Process*.

3.5.2 Implementing Field Level Hazard Assessment

Prior to beginning work activities each day or after an extended break or interruption (e.g., shift change, weekend), perform the following:

- Perform a Walkdown and review the work location with involved personnel
- Review area hazards to ensure they are identified and hazard controls/mitigations are in place to eliminate/reduce them
- Ensure there are no new hazards unidentified and uncontrolled by the approved JHA

Using UCN-23552, perform the following:

- Conduct a FLHA briefing with the work crew and support disciplines
- Resolve any issues/concerns with the work crew
- List and discuss the scope of work, anticipated hazards, and controls/mitigation measures for the work to be performed
- Ensure personnel document participation in the “Employee” section of UCN-23552

Conduct appropriate FLHA briefings when any of the following conditions exist:

- The work area changes
- Personnel with different classifications will be working in close proximity
- Differing types of work are performed in close proximity
- The work activity changes
- The Responsible Superintendent/Startup Test Engineer deems it necessary
- Turn in completed forms (i.e., UCN-23552, UCN-23464, UCN-23544, *Field Level Hazard Assessment (FLHA) Startup Preventive Maintenance*) as applicable at the end of each shift at the designated collection points. The end of shift review/de-briefing section must be completed before submitting these forms to UPF DMC.

3.5.3 Example FLHA Questions for Overhead Work

Have all Workers:

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- Completed appropriate training on fall protection
- Reviewed the JHA of the task
- Been made fully aware of the associated hazards of the job to be performed, local surroundings, and other tasks being performed nearby
- Reviewed permit-to-work, where applicable
- Been made aware of safe access and egress routes
- Inspected harness and lanyard for damage
- Obtained all the necessary correct personal protective equipment for the task
- Confirmed material is stored neatly preventing hazards to the Workers and others nearby
- Identified and cordoned off traffic routes as required to support safe movement of material and equipment
- Identified environmental requirements and controls
- Confirmed availability of spill kits for heavy equipment and protective measures for refueling

Also:

- Have riggers been briefed on the scope of work to be performed?
- Has the Supervisor verified potential changes to the work scope?
- Will there be interface with other work crews and any other entities relevant to the task?
- Are emergency arrangements in place and suitable for the tasks being performed?
- Has the team covered all aspects concerned with overhead work and the general protection of those below?

3.6 Startup Operations

For Startup operations, implement the FLHA process identified in **Section 3.5, FLHA Process**. For Startup Testing and test support activities, use UCN-23464. For Startup Preventive Maintenance activities, use UCN-23544.

3.7 Field Level Hazard Assessment Card Review/Feedback

The Responsible Superintendent/STE shall review and address feedback/comments from the applicable crew. All feedback/comments should be addressed in a prompt fashion, and issues that cannot be immediately resolved shall be elevated to the appropriate organization (e.g., ES&H, Quality, Field Engineering) for further review and resolution. The Responsible Superintendent/STE shall sign all applicable FLHA cards and return to ES&H.

Feedback/comments that improve the quality of JHAs or fill in gaps in JHAs shall be captured by the reviewing RS/STE and forwarded to the ES&H Representative for incorporation to the next revision of the JHA.

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4.0 RECORDS

Records generated by this Document shall be maintained in accordance with Y15-95-800, *UPF Document Management*.

The following records are generated:

Record or Form Number	Record Title	System/ Location	Document Type
CFN-1158	<i>Q4 JHA/UPF Job Hazard Analysis</i>	InfoWorks	JHA
CFN-1251	<i>UPF Construction/Startup Attendance Sheet</i>	InfoWorks	TACK
UCN-23554-E	<i>JHA Briefing Attendance Sheet (Generated by Power BI)</i>	InfoWorks	TACK
Document Specific	<i>UPF Field Level Hazard Assessment Card (may include UCN-23552, UCN-23464, and UCN-23544)</i>	InfoWorks	STA

5.0 REFERENCES

5.1 Source References

PL-QA-801768-A001, *Bechtel National Incorporated (BNI) Uranium Processing Facility (UPF) Project Quality Assurance Plan (QAP)*

Y17-95-64-800, *UPF Construction/Startup Work Control Program*

Y60-95-102PD, *UPF Quality Assurance Program Description*

Y73-95-804, *UPF Project Industrial Hygiene Exposure Assessment & Surveillance Strategy and Process*

5.2 Interfacing References

COI-CM-801768-A087, *Delegation of Construction Site Manager, 10 CFR 851 Signature Authority for Job Hazard Analysis (JHAs)*

DI-SH-801768-A006, *UPF Chekhov Field Observation Process*

ML-CM-801768-A019, *UPF Hazard Tree*

ML-SH-801768-A003, *UPF Gloves Matrix*

MNL-SU-801768-A001, *UPF Startup Test Program Manual*

UPF-CP-105, *Risk Assessment and Objectives*

Y15-95-800, *UPF Document Management*

Y15-95-921, *UPF Startup Preventive Maintenance*

5.3 Forms

CFN-1016A, *UPF Work Package Scope and Approvals*

CFN-1021A, *UPF Work Package/Startup Instruction Pre/Mid-Job Briefing*

CFN-1158, *UPF Job Hazard Analysis*

CFN-1251, *UPF Construction/Startup Attendance Sheet*

UCN-23350, *Exposure Control Plan*

UCN-23353, *SDS Evaluation Form*

UCN-23464, *Field Level Hazard Assessment (FLHA) Startup Testing*

UCN-23544, *Field Level Hazard Assessment (FLHA) Startup Preventive Maintenance*

UCN-23552, *Field Level Hazard Assessment (FLHA) Card*

UCN-23554-E, *JHA Briefing Attendance Sheet*

6.0 SUPPLEMENTAL INFORMATION

Appendix A, *Acronyms and Definitions*

Appendix B, *Electronic Process Flow Chart*

APPENDIX A Acronyms and Definitions

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Acronyms

CWP - Construction Work Package	4
DMC - Document Management Center	8
ES&H - Environmental, Safety, and Health	4
FE - Field Engineer	5
FLHA - Field Level Hazard Assessment	4
JHA - Job Hazard Analysis	4
PSUM - Project Startup Manager	5
SOW - Statement of Work	8
STE - Startup Test Engineer	5
STL - Startup Test Lead	5
STR - Subcontract Technical Representative	4
UPF - Uranium Processing Facility	4
Y-12 - Y-12 National Security Complex	4

Definitions

Construction/ Startup Work	Physical/manual work performed, excluding administrative work activities. Hands-on activities intrusive to a system, structure, component, or equipment (includes testing, troubleshooting, and calibration activities).
Hold Point	A mandatory verification point in the sequence of work. The Hold Point may not be passed without being released by the identified person or organization based on confirmation specified conditions have been met or completed. Hold Points are steps in a process that due to safety, technical, or work process importance may need to have additional oversight, verification, or documentation.
JHA Development Team	A team comprised of Supervision, an FE or STR (for CWPs), an ES&H representative, an STL and STE (for Startup Test/Operating Instructions), and Workers. The team may also include other technical or subject matter representatives as appropriate for the scope of work. The team identifies hazards and develops appropriate hazard controls/mitigations based on the scope of work and documents in CFN-1158, or on Q4 Electronic Application.
Job Hazard Analysis	CFN-1158 or on Q4 Electronic Application generated form; A process that identifies key job activities/tasks associated with a definable activity. Using CFN-1158 or Q4, examine key job activities/tasks to determine the foreseeable hazards associated with the task (e.g., chemical, biological, physical, workplace), and establish criteria to eliminate or control the hazards.

APPENDIX A Acronyms and Definitions

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Pre-Job Briefing	CFN-1021A; a meeting to brief personnel involved in the performance of an approved work package. This meeting is held before the initial start of field activities or when new Workers are added to the team, and may be repeated if there are significant changes in project conditions or plans. At a minimum, the meeting is to discuss the scope of work, permits required to perform activities, hazards and controls associated with work activity, Worker qualifications, Lessons Learned, and special requirements as deemed appropriate by the Responsible Superintendent conducting the meeting. For subcontracted work, this meeting also establishes the personnel responsible for roles identified in the work scope.
Walkdown	An activity used to familiarize personnel with the work, its location, hazards, current conditions, and other points important to planning safe performance of the work.
Work Package/ Startup Test Instruction/ Startup Operating Instruction	Document that provides the scope, direction, and design documents to accomplish the activity, including information to meet Project requirements.
Workers	Individuals assigned responsibility for performance of the work identified in the work package.

APPENDIX B Electronic Process Flow Chart

