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FR1A	Intent change to provide detail for Craft Work Package and Detailed Work Package	5, 8, 28	03/02/2020

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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure defines the process used by subcontracted entities to plan and execute Activity Level Work (ALW) for the Paducah Gaseous Diffusion Plant (PGDP) Deactivation & Remediation (D&R) contractor.

1.2 Scope

This procedure applies to all work performed by subcontractors working for the PGDP D&R contractor.

Any Work Package approved prior to the effective date of this procedure is considered "grandfathered" until either the next revision or the completion of the work scope.

Activities defined as "exclusions" in Appendix B, *Activities Excluded from the Work Planning Process,* do **NOT** require any work control documentation or approval.

The High Hazard Review Board (HHRB) reviews all high risk work activities as defined in Appendix D, *Work Planning Rigor Based on Performance Risk.*

If the start up or restart of work activities are in a Hazardous Category 2 or 3 nuclear facility, CP2-OP-1119, *Readiness Review Program at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky,* must be followed prior to start of work.

The requirements of this procedure do **NOT** apply to activities performed at an off-reservation subcontractor, vendor, or third party location under the cognizance and requirements of the subcontractor/vendor work control or safety and health program.

2.0 REFERENCES

2.1 Use References

- CP2-OP-1119, *Readiness Review Program at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*
- CP2-SM-1000, *Activity Level Work Planning and Control Program for the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*
- CP3-ES-0003, *Environmental Incident Reporting*
- CP3-HS-2004, *Job Hazard Analysis*
- CP3-NS-2001, *Unreviewed Safety Question Reviews*
- CP3-RD-0010, *Records Management Process*
- CP3-SM-1101, *Work Package Development*
- CP5-SM-1008, *Hazard/Control Integration Guide*

2.2 Source References

- CP1-NS-3000, *Documented Safety Analysis for the Department of Energy Paducah Site Deactivation Project*
- CP1-NS-3001, *Technical Safety Requirements for the U.S. Department of Energy Paducah Site Deactivation Project*

- CP2-ES-0101, *Environmental Management System for the Deactivation and Remediation Project, Paducah Gaseous Diffusion Plant, Paducah, Kentucky*
- CP2-FP-2000, *Fire Protection Program Description for the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*
- CP2-HS-1000*, Integrated Safety Management System Description for the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*
- CP2-HS-2000, *Worker Safety and Health Program for the Paducah Gaseous Diffusion Plant Paducah, Kentucky*
- CP2-NS-1000, *Nuclear Criticality Safety Program Description Document at the Paducah Gaseous Diffusion Plant Paducah, Kentucky*
- CP2-QA-1000, *Quality Assurance Program Description for the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*
- CP3-TR-0102*, Conduct of Training*
- DOE G 424.1-1B, *Implementation Guide for Use in Addressing Unreviewed Safety Question Requirements*
- DOE HDBK-1211-2014, *Activity-Level Work Planning and Control Implementation*

3.0 COMMITMENTS

Nuclear Safety (NS), Nuclear Criticality Safety (NCS), and other regulatory requirements incorporated into Work Packages must be identified and adhered to during work execution.

4.0 RESPONSIBILITIES

The following titles apply to the PGDP D&R Contractor; subcontractors may utilize different titles to satisfy the responsibilities.

4.1 Craft Workers

4.1.1 Participates in the planning process as a craft worker based on assigned classification, position, and experience.

4.1.2 Assists in development of Work Packages and sequencing of activities and work steps and identification of operating experience that promotes continuous process improvement.

4.1.3 Maintains a questioning attitude and willingness to participate in planning.

4.1.4 Supports development of hazard identification and controls for Work Packages.

4.1.5 Reviews Work Packages to ensure the scope of work and associated steps are clear, work can be performed safely and as written, and necessary parts and materials are identified.

4.2 PGDP D&R Contractor Facility Manager or Designee

4.2.1 Ensures the required operational status of assigned facilities is maintained consistent with the project mission.

4.2.2 Participates in work planning process for Work Packages that will be executed in facilities under their control.

4.2.3 Participates in walk downs or discussions as needed.

4.3 PGDP D&R Operational Programs Manager Chg A

Initiates and oversees management and self-assessments to evaluate Subcontractor Work Planning and Execution implementation and performance.

4.4 PGDP D&R Deputy Manager of Projects/Project Integration Manager Chg A

4.4.1 Acts as Subject Matter Expert (SME) for Subcontractor Work Planning and Execution and assigns alternate SMEs as deemed appropriate.

4.4.2 Ensures the Subcontractor Work Planning and Execution implementing procedure is compliant with CP2-SM-1000, *Activity Level Work Planning and Control Program for the Paducah Gaseous Diffusion Plant, Paducah, Kentucky*.

4.5 PGDP D&R Contractor Nuclear Facility Manager

4.5.1 Ensures operation of the nuclear facilities is in accordance with approved Technical Safety Requirements (TSRs).

4.5.2 For work involving a safety significant structure, system, or component (SSC), authorizes start work in addition to the Facility Manager (FM).

4.5.3 Reviews as FM for site-wide Work Package development.

4.5.4 Participates in development of Work Packages involving safety significant SSCs.

4.6 Subcontractor Responsible Manager

4.6.1 Stays cognizant of the status of work under their authority.

4.6.2 Responsible for the planning process by ensuring the availability of planning team resources, based on work priority, and providing approval of Work Packages.

4.6.3 Ensures work scopes are properly identified and developed such that work is executed in a safe, cost-effective, and compliant manner, while meeting project performance objectives and goals.

4.6.4 Ensures the scope of each Work Package is sufficient for the work being performed.

4.6.5 Responsible for presentation of Work Packages to the HHRB.

4.7 PGDP D&R Contractor Level 1 Contract Technical Representative

4.7.1 Ensures participation of appropriate SMEs in work scope and requirements development.

4.7.2 Provides oversite for Subcontractor Work Planning and Execution.

4.7.3 Ensures that work does **NOT** begin until funding and the required work authorizations are in place.

4.7.4 Provides input in Plan of the Week and Plan of the Day meetings to provide status of work starting or in progress.

4.7.5 Resolves conflicts and obstacles as needed to ensure successful subcontract execution.

4.7.6 Assists the subcontractor with work planning and approval processes.

4.7.7 The Level 1 Contract Technical Representative (CTR) coordinates, facilitates, and consults with all identified SMEs to ensure the information is relevant to the activity being performed.

4.8 PGDP D&R Contractor Subject Matter Experts or Reviewers or Designee

4.8.1 Participates in the planning process as a SME in their respective area for scope of work development, requirement identification, analysis, and control for development of Work Packages.

4.8.2 Supports selection of requirements from their area of expertise that must be integrated into Work Packages according to Appendix E, *Reviewer Requirements*.

4.9 Supervisor

4.9.1 Supports the planning process by ensuring the availability of craft resources, as necessary, for participation.

4.9.2 Leads the development of hazard identification checklist (HIC) documentation.

4.9.3 Reviews and provides feedback during development of Work Package.

4.9.4 Leads craft walk downs for hazard identification and Work Package development.

4.9.5 As assigned, responsible for presentation of Work Packages to the HHRB.

4.9.6 Assembles HIC development team (required participants include: CTR, Safety & Health, craft, and planner).

4.10 PGDP D&R Contractor Unreviewed Safety Question Preparer/Reviewer

4.10.1 Performs review of Work Packages against the documented safety basis of the facility where the work will be performed to ensure that the work is within the defined safety basis and does **NOT** introduce an unreviewed safety question (USQ).

4.10.2 **When** changes or revisions are made to Work Packages, **then** ensures the modification does **NOT** introduce a USQ.

4.10.3 Documents USQ reviews in accordance with CP3-NS-2001, *Unreviewed Safety Question Reviews.*

5.0 GENERAL INFORMATION

5.1 Hazard control integration guidance is provided in CP5-SM-1008, *Hazard/Control Integration Guide.*

5.2 Procedures, specifications, and other work-related documents [for example, Facility Change Traveler (FCT), Design Installation and Verification Specifications (DIVS), excerpted text, drawings, sketches, vendor or manufacturer manuals and other documents] may be incorporated into Work Packages. The sources provide appropriate direction for safe and efficient work performance. The documents shall be reviewed and, as appropriate, approved for use. The documents shall be properly referenced within the Work Package and made available for reference by work teams as needed.

NOTE:

The Hierarchy of Controls for selection are as follows:

1) Eliminate the Hazard
2) Engineered Controls
3) Administrative Controls
4) Personal Protective Equipment

5.3 The first priority in hazard controls for all work scopes is to eliminate environmental and activity hazards and avoid exposure. For hazards that **cannot** be eliminated or processes that may **NOT** be substituted with less hazardous alternatives, engineering and/or administrative controls shall be identified and integrated to minimize hazard exposure or the consequences of hazard exposure. **If** engineering and/or administrative controls **cannot** be feasibly deployed, **then** personal protective equipment (PPE) may be used to reduce or otherwise mitigate exposure.

5.4 During hazard analysis and identification of controls, potential unintended conflict associated with hazard controls (for example, the effect of PPE ensembles on heat stress exposure) shall be be evaluated to optimize controls for the specific exposure scenario.

5.5 Use of a Work Package with a higher level of rigor for the performance risk as specified in Appendix D, *Work Planning Rigor Based on Performance Risk,* is acceptable.

5.6 Required reviews for changes or revisions to Work Packages include those functional areas and/or SMEs affected by the changes made to the Work Package.

5.7 All spills shall be reported to the Plant Shift Superintendent in accordance with CP3-ES-0003, *Environmental Incident Reporting.*

5.8 CP2-SM-1000, *Activity Level Work Planning and Control Program for the Paducah Gaseous Diffusion Plant Paducah*, *Kentucky*, utilizes terminology that applies to the PGDP D&R Contractor; this procedure utilizes different titles, positions, and forms or formats to satisfy the responsibilities.

6.0 INSTRUCTIONS

6.1 Craft Work Package

Level 1 CTR

6.1.1 Based on performance risk level, identify the appropriate type of Work Package as specified in Appendix D **and** proceed to Step **6.1.2** for Craft Work Package **or** Section **6.2** for Detailed Work Package. Chg A

Subcontractor Responsible Manager (SRM) or Designee

NOTE:

Craft Work Instructions are work tasks that are recognized to be limited in complexity and risk from hazards when performed in a stable work environment (where location-specific hazards are expected to remain unchanged during work performance) by skilled craftspeople.

6.1.2 Define the work scope by identifying all activities required to complete the work.

6.1.3 Engage craft and SMEs as needed to develop a complete, concise scope of work according to the following **and** document on CP3-SP-0019-F01, *Craft Work Instruction*:

- The type(s) of craft necessary to complete the work
- The work to be performed
- The location of major equipment or components
- The established boundaries for completing the assigned work scope (for example, information to help prevent "scope creep" and work location)

NOTE:

Step **6.1.4** is **NOT** meant to be an all-inclusive listing of tools needed to perform the work scope.

6.1.4 Identify any special tools or equipment required for the completion of the work scope according to the following:

A. Identify Special Tools as follows:

- Special Tools are **NOT** standard tools used frequently by all members of a particular craft.
- Special Tools may be considered Measuring and Test Equipment (M&TE).

NOTE:

Special equipment does **NOT** include routine material handling equipment.

B. Identify Special Equipment to be used, such as high reach excavators, remotely controlled machinery, etc.

6.1.5 Conduct an analysis of the hazards and needed controls for the work by completing CP3-HS-2004-F01, *Hazard Identification Checklist (HIC),* according to CP3-HS-2004, *Job Hazard Analysis*.

6.1.6 Identify required permits.

6.1.7 Incorporate identified hazards and controls into Section C of the Craft Work Instruction according to CP5-SM-1008, *Hazard Control Integration Guide*.

6.1.8 Identify potential environmental aspects or impacts into Section D of the Craft Work Instruction, such as the use of silt fencing or straw bales for runoff control.

6.1.9 Submit the draft Craft Work Instruction to the Level 1 CTR.

Level 1 CTR

6.1.10 Determine required reviewers and approvers for the Craft Work Instruction according to Appendix C, *Reviewer Determination Matrix*.

NOTE:

The generation of "Lessons Learned" is **NOT** the sole responsibility of the Level 1 CTR

6.1.11 Based on the work scope, identify applicable "Lessons Learned" from available Operating Experience and Lessons Learned data.

NOTE:

Review and concurrence may be conducted by e-mail or a roundtable review.

6.1.12 Distribute the draft Craft Work Instruction, including applicable lessons learned and training matrix, for review and concurrence.

SME/Reviewer(s)

NOTE:

Area-specific review responsibilities are identified in Appendix E.

6.1.13 Review the draft Craft Work Instruction for the following:

- Impact on current related processes and work in progress
- Consideration of lessons learned and training matrix

6.1.14 Ensure comments relating to area of expertise, as well as those related to safety, are documented electronically via e-mail or roundtable review.

A. Ensure comments are clear and objective, **NOT** a question.

B. **If** no comments, **then** indicate no comments.

6.1.15 Comments should be submitted to the Level 1 CTR via email, unless comment resolution is being conducted via round table review.

6.1.16 Submit comments to the Level 1 CTR by the required response date.

Level 1 CTR and SRM or Designee

6.1.17 Resolve all reviewer comments identified **and** obtain reviewer concurrence.

SRM or Designee

6.1.18 Assemble the Craft Work Package according to the following **and** submit the Work Package to the Level 1 CTR:

- Craft Work Instruction
- HIC/Job Hazard Analysis (JHA)
- Lessons Learned
- Training Matrix
- Reviewer Approvals
- Blank CP3-SM-1101-F04, *Pre-Job Brief/Status Log* Forms
- Blank CP3-SM-1101-F13, *Work Control Status Log Continuation Sheet* Forms

NOTE:

Applicable Safety Data Sheets (SDSs) are approved by the PDGP D&R contractor and available to workers. SDSs are **NOT** required to be included in the Work Package.

Level 1 CTR

6.1.19 Submit the Craft Work Package to the USQ Preparer or Reviewer.

USQ Preparer/Reviewer

6.1.20 Review the Craft Work Package based on the applicable safety basis documents and controls.

6.1.21 Determine if the Craft Work Package activity requires USQ documentation.

6.1.22 **If** the Craft Work Package requires USQ documentation, **then** prepare **and** obtain approval of appropriate document according to CP3-NS-2001.

SRM or Designee

6.1.23 **If** the USQ review provides a positive Unreviewed Safety Question Determination (USQD) to the draft Craft Work Package, **then** make required changes **and** obtain approvals from affected reviewers.

6.1.24 Complete CP3-SP-0019-F03, *Subcontractor Work Package Cover Sheet* **and** insert in the Work Package.

Level 1 CTR

6.1.25 Review Craft Work Package to ensure that the work can be performed safely and compliantly utilizing properly trained and qualified workers.

6.1.26 Approve the execution of the Craft Work Package.

6.2 Detailed Work Package

SRM or Designee

NOTE:

Detailed Work Packages are planned using a "task-centered" approach by dividing the work scope into tasks and planning the performance of each individual task.

6.2.1 Define the work scope by identifying all activities required to complete the work.

6.2.2 Engage craft and SMEs as needed to develop a complete, concise scope of work according to the following and document on CP3-SP-0019-F02, *Detailed Work Instruction*.

- The type(s) of craft necessary to complete the work
- The work to be performed
- The location or major equipment or components
- The established boundaries for completing the assigned work scope (for example, information to help prevent "scope creep" and work location)

NOTE:

Step **6.2.3** is **NOT** meant to be an all-inclusive listing of tools needed to perform the work scope.

6.2.3 Identify any special tools or equipment required for the completion of the work scope according to the following:

A. Identify Special Tools as follows:

- Special Tools are **NOT** standard tools used frequently by all members of a particular craft
- Special Tools may be considered M&TE

B. Identify Special Equipment to be used, such as high reach excavators, remotely controlled machinery, etc.

6.2.4 Conduct an analysis of the hazards and needed controls for the work by completing CP3-HS-2004-F01, *Hazard Identification Checklist (HIC)* according to CP3-HS-2004, *Job Hazard Analysis*.

6.2.5 Identify required permits.

6.2.6 Incorporate identified hazards and controls into Section C of the Detailed Work Instruction according to CP5-SM-1008, *Hazard Control Integration Guide*.

6.2.7 Identify potential environmental aspects or impacts into Section D of the Detailed Work Instruction, such as the use of silt fencing or straw bales for runoff control.

6.2.8 Identify Precautions and Limitations associated with the work scope according to the following:

A. Precautions:

- Precautions must affect the entire SI **or** occur at more than one point in the SI
- Statements that alert workers to actions and conditions that represent potential personnel hazards, pose the potential for damage to equipment, damage to the environment, or could result in abnormal facility conditions may be precautions
- Precautions do **NOT** have to be implemented prior to beginning work

B. Limitations:

- Limitations define boundaries that are **NOT** to be exceeded, including system or equipment capacities **or** conditions during SI completion
- Limitations may also include any pre-start conditions that must be in place prior to beginning work execution

6.2.9 Engage craft and SMEs as needed to determine the sequencing of activities necessary to complete the work **and** develop the work steps on the Detailed Work Instruction according to the following:

A. **If** work has multiples craft identified in Part A, **then** performers should be identified within the action steps.

B. In order to eliminate the potential for misinterpretation or error, action steps should be clear and concise, alerting the worker to the desired action or goal of the work steps.

C. Action steps should be written for the intended audience executing the Work Package.

D. Work steps should be sequenced in a logical flow, or bulletized where sequence is **NOT** important.

E. Steps with significance to safety, the Documented Safety Analysis (DSA), or those that are regulatory in nature should be identified.

F. Warning statements may be included within a work step to alert workers to the following:

- Potential hazards to personnel or the environment through the performance of the work step
- Potential actions that may result in a violation (for example, NCS, Environmental, etc.)

G. Caution statements may be included within a work step to alert workers to situations that have the potential for damage to products or equipment, including inadvertent activation or entry into a Limiting Conditions for Operation (LCO) condition.

H. **If** there is more than one warning or caution required for an action step, **then** the warnings or cautions shall be bulleted within the warning or caution box.

I. Notes may be included within a work step to call attention to important supplemental information. The information can be a reminder of preparatory information needed to perform the activities of an Activity Level Work Control Document (ALWCD) or action step.

J. Conditional action steps are used when a decision is based upon the occurrence of a condition or a combination of conditions.

Examples:

- **If** this, **then** do this
- **When** this, **then** do this

K. **When** actions are required by someone other than the execution team, **then** Hold Points should be incorporated into the instructions.

6.2.10 Submit the draft Detailed Work Instruction to the Level 1 CTR.

Level 1 CTR

6.2.11 Determine required reviewers and approvers for the Detailed Work Instruction according to Appendix C.

NOTE:

The generation of "Lessons Learned" is **NOT** the sole responsibility of the Level 1 CTR. The Level 1 CTR should coordinate, facilitate, and consult with all identified SMEs to ensure the information is relevant to the activity being performed.

6.2.12 Based on the work scope, identify applicable "Lessons Learned" from available Operating Experience and Lessons Learned data.

NOTE:

Review and concurrence may be conducted by e-mail or a roundtable review.

6.2.13 Distribute the draft Detailed Work Instruction, including applicable lessons learned and training matrix, for review and concurrence.

SME/Reviewer(s)

NOTE:

Area specific review responsibilities are identified in Appendix E.

6.2.14 Review the draft Detailed Work Instruction for the following:

- Impact on current related processes and work in progress
- Consideration of lessons learned and training matrix

6.2.15 Ensure comments relating to area of expertise as well as those related to safety are documented electronically via e-mail or roundtable review.

A. Ensure comments are clear and objective, **NOT** a question.

B. **If** no comments, **then** indicate no comments.

NOTE:
Comments should be submitted to the Level 1 CTR via email, unless comment resolution is being conducted via round table review.

6.2.16 Submit comments to the Level 1 CTR by the required response date.

Level 1 CTR and SRM or Designee

6.2.17 Resolve all reviewer comments identified **and** obtain reviewer concurrence.

SRM or Designee

6.2.18 Assemble the Detailed Work Package according to the following **and** submit the Work Package to the Level 1 CTR.

- Detailed Work Instruction
- HIC/JHA
- Lessons Learned
- Training Matrix
- Reviewer Approvals
- Blank CP3-SM-1101-F04, *Pre-Job Brief/Status Log*s
- Blank CP3-SM-1101-F13, *Work Control Status Log Continuation Sheets*

Level 1 CTR

6.2.19 Schedule the Detailed Work Package to be reviewed and approved by the High Hazard Review Board (HHRB) according to CP3-SM-1101, *Work Package Development*.

Level 1 CTR and SRM or Designee

6.2.20 Present the Detailed Work Package to the HHRB.

Level 1 CTR

6.2.21 Upon approval from the HHRB, submit the Detailed Work Package to the USQ Preparer or Reviewer.

USQ Preparer/Reviewer

6.2.22 Review the Detailed Work Package based on the applicable safety basis documents and controls.

6.2.23 Determine if the Detailed Work Package activity requires USQ documentation.

6.2.24 **If** the Detailed Work Package requires USQ documentation, **then** prepare **and** obtain approval of appropriate document according to CP3-NS-2001.

SRM or Designee

6.2.25 **If** the USQ review provides a positive USQD to the draft Detailed Work Package, **then** make required changes **and** obtain approvals from affected reviewers.

6.2.26 Complete CP3-SP-0019-F03, *Subcontractor Work Package Cover Sheet*, **and** insert in the Work Package.

Level 1 CTR

6.2.27 Review Detailed Work Package to ensure that the work can be performed safely and compliantly utilizing properly trained and qualified workers.

6.2.28 Approve the execution of the Detailed Work Package.

6.3 Work Package Execution

Supervisor

NOTE:

It is permissible for more than one work crew to execute work under a shared Work Package, however, copying the Work Package for use by another crew is **NOT** allowed.

6.3.1 For work involving a safety significant SSC, obtain work start authorization from the Nuclear Facility Manager (NFM).

6.3.2 Obtain work start authorization from the FM or designated authority.

6.3.3 **If** work start authorization is obtained via email, **then** include the email in the Work Package.

NOTE:

Assistance or support from appropriate SME(s) should be obtained as necessary to perform positive identification of system, component, or location to be maintained or repaired.

6.3.4 Prior to beginning work:

- Ensure that conditions have **NOT** changed since the work was planned
- Confirm the work boundaries identified are correct
- Positively identify the system, component or location to be worked on or in

NOTE:

The Supervisor should request the presence of the entire execution team at the pre-job briefing, including necessary support staff such as Industrial Hygiene, Radiological Controls and Safety, etc.

6.3.5 Perform pre-job briefing **and** document the briefing on CP3-SM-1101-F04.

6.3.6 Resolve worker-identified issues and concerns during work performance **and** document the resolutions in the Work Package.

Craft Worker and/or Supervisor

NOTES:

- Work may **NOT** proceed past a Hold Point until that Hold Point step is completed and authenticated by the specified Hold Point representative (Such as QC).
- A non-conditional Quality Hold Point may be waived with approval from engineering and the Quality Manager, and should be documented in the Work Control Status Log.
- Performance expectations for each type of Work Package are defined in Appendix A, *Acronyms/Definitions*.

6.3.7 Obtain required permits **and** execute work according to the Work Package.

6.3.8 To adequately describe and enable recreation of work performed, document activities performed each shift and pertinent information regarding work completed using the Work Control Status Log.

6.3.9 Document instrumentation used as M&TE to provide a record of traceability on the Work Control Status Log.

6.3.10 Notify the appropriate SRM of problems or issues preventing work completion as scheduled.

6.3.11 **If** required by the Work Package, **then** upon completion of work, perform, **or** verify performance of, required post-performance activities.

6.3.12 Upon completion of the Work Package, submit the Work Package to the Level 1 CTR.

6.4 Field Changes to Work Packages

NOTE:

Required reviews for field changes to Work Packages include those functional areas and/or SMEs affected by the changes made to the ALWCD.

Supervisor

6.4.1 Discontinue work affected by the needed changes **and** document on Work Control Status Log.

6.4.2 Ensure discontinued work is in a safe configuration.

6.4.3 Evaluate, along with applicable SMEs, the proposed change to determine if any of the following criteria is true:

- Introduces, or results from identification of, a previously unanalyzed hazard

NOTE:
Undefined Hold Points refer to a Hold Point for which acceptance criteria, quality objectives, or performance requirements were **NOT** previously defined within the ALWCD. This requirement does **NOT** include the need for additional performance of previously defined Hold Point steps.

- Introduces, or results from the identification of, previously undefined Hold Points
- Introduces, or results from the identification of, design, specification, or system configuration changes requiring additional evaluation and/or approval by Engineering
- The needed change involves handling of fissile material, fissile material operations, or affects compliance with an NCS controls

6.4.4 **If** any of the statements in Step **6.4.3** are evaluated as "true," **then** return revise the Work Package according to Section **6.5**.

6.4.5 **If** all of the statements in Step **6.4.3** are evaluated as "false," **then** make a pen and ink field change to the document.

6.4.6 Obtain review and concurrence from the Level 1 CTR.

Level 1 CTR

6.4.7 Submit the Work Package to USQ.

USQ Preparer/Reviewer

6.4.8 Determine if the field change requires USQ documentation.

6.4.9 **If** the field change does **NOT** require USQ documentation, **then** notify the Supervisor to proceed with the change.

6.4.10 Review the change based on the applicable safety basis documents and controls.

6.4.11 Prepare **and** obtain approval of appropriate document according to CP3-NS-2001.

Supervisor

6.4.12 Brief the affected members of the execution team on the changes **and** document the briefing on CP3-SM-1101-F04.

6.4.13 **If** new USQ documentation was developed, **then** re-obtain start work from the FM or NFM.

6.5 Revisions to Work Packages

NOTE: Required reviews for revisions to Work Packages include those functional areas and/or SMEs affected by the changes made to the ALWCD.

Supervisor

6.5.1 Discontinue work affected by the needed changes **and** document on Work Control Status Log.

6.5.2 Notify the FM or NFM of the stoppage **and** ensure the work is placed in a safe configuration.

SRM or Designee

6.5.3 Revise the Work Package according to Section **6.1** or **6.2** of this procedure.

Supervisor

6.5.4 Obtain authorization for restart of work by requiring each position responsible for Approval to Start Work to initial and date beside the original respective Approval to Start Work signatures.

6.5.5 After restart of work approval has been obtained, document the resumption of work in the Work Control Status Log.

6.5.6 Prior to continuing work, brief the execution team on the revision **and** document the briefing on CP3-SM-1101-F04.

6.6 Work Suspension/Delay or Pause/Stop Work

Supervisor

6.6.1 **If** during performance of work an unexpected delay in the work schedule requires that work be suspended or delayed for greater than seven calendar days, **then** perform the following:

A. Coordinate the work suspension or delay with the SRM and/or FM(s) of the affected facility(ies) or project, to ensure that the facility and/or project and all systems are placed in a safe condition prior to demobilization of the execution team.

B. In the Work Control Status Log, document the reason for the suspension or delay, status of all work activities and include a summary of actions taken to place the facility or project in a safe condition.

6.6.2 Prior to resumption of work, perform the following:

NOTE**:** If restart authorization obtained via email, the email must be included in the Work Package.

A. Obtain authorization for restart of work by requiring each position responsible for Approval to Start Work to initial and date beside the original Start Work signatures or via email.

NOTE:
The Supervisor should request the presence of the entire execution team at the pre-job briefing, including necessary support staff such as Industrial Hygiene, Radiological Controls and Safety, etc.

B. Conduct a pre-job briefing to reestablish worker awareness of hazards and hazard controls (including PPE requirements) associated with the work and to identify any changes in working conditions since the work suspension **and** document the briefing on CP3-SM-1101-F04.

6.6.3 Document the resumption of work activities in the appropriate Work Control Status Log.

7.0 RECORDS

7.1 Records Generated

The following records may be generated by this procedure:

- CP3-SP-0019-F01, *Craft Instruction*
- CP3-SP-0019-F02, *Detailed Work Instruction*
- CP3-SP-0019-F03, *Subcontractor Work Package Cover Sheet*
- CP3-SM-1101-F04, *Pre-Job Brief/Status Log*
- CP3-SM-1101-F13, *Work Control Status Log Continuation Sheet*
- CP3-SM-1101-F15, *High Hazard Review Board Form*

Forms are to be completed in accordance with CP3-OP-0024, *Forms Control*.

7.2 Records Disposition

The records are to be maintained in accordance with CP3-RD-0010, *Records Management Process*.

Appendix A – Acronyms/Definitions

ACRONYMS

ALW – Activity Level Work

ALWCD – Activity Level Work Control Document

CTR – Contract Technical Representative

DIVS – Design Installation and Verification Specifications

DOE – U.S. Department of Energy

DSA – Documented Safety Analysis

D&R – Deactivation & Remediation

FCT – Facility Change Traveler

FM – Facility Manager

HHRB – High Hazard Review Board

ISMS – Integrated Safety Management System

JHA – Job Hazard Analysis

LCO – Limiting Conditions for Operation

M&TE – Measuring and Test Equipment

NCS – Nuclear Criticality Safety

NFM – Nuclear Facility Manager

NNSS – Nevada National Security Site

NS – Nuclear Safety

PGDP – Paducah Gaseous Diffusion Plant

PPE – Personal Protective Equipment

RCRA – Resource Conservation and Recovery Act

SME – Subject Matter Expert

SRM – Subcontractor Responsible Manager

SSC – Structure, System, or Component

Appendix A – Acronyms/Definitions (Continued)

TSCA – Toxic Substances Control Act

TSR – Technical Safety Requirement

USQ – Unreviewed Safety Question

USQD – Unreviewed Safety Question Determination

DEFINITIONS

Activity Level Work – Any task, process, or work step performed where hazards are present; are introduced by the work; or are introduced by the work environment (regardless of who is performing the work or the organization with which they are affiliated). The hazards involved could be potentially adverse to worker health and safety, the public, the environment, or safeguards or security.

Change – A change to a Work Package that doesn't meet the criteria for a revision, defined in Section 6.5 of this procedure.

Complexity – A qualitative evaluation of a task or process based on capabilities, competencies and experience of the performers, defined performance expectations, potential consequence of deviation in method or sequence of performance, and proximity to other operations.

Contractor Responsible Manager – A manager who is assigned and granted the responsibilities and accountability to appropriately control fieldwork by the subcontracted company. This function is responsible for the adequate planning/readiness of activities performed by their personnel.

Excluded Work – Work that is excluded from the requirements of the Work Planning and Control Program. Specific exclusions are defined in Appendix B.

Execution Team or Work Execution Team – All personnel identified by the Supervisor who will perform the work activities specified in Work Packages. For pre-work walk downs of Work Packages, the "Execution Team" performing walk down activities must include representative of the craft work force classifications performing the work, functional project support personnel who will support the work (RADCON, Health & Safety, etc.), and work activity Supervisor.

Facility Manager (FM) – An individual possessing the required education, training, experience, and qualifications who has been authorized by PGDP D&R Management to oversee all activities performed in a facility(s) and verifies consistent performance in a safe manner and within the safety basis of the facility. Facility Managers are directly accountable for the safe execution of activities within their facilities.

Supervisor – An employee assigned the responsibility of ensuring the workers have a clear understanding of a defined work scope and work requirements in accordance with the approved work control documents. This individual is the primary medium of communication between the Planning Team and the Execution Team workforce.

Graded Approach – The process of ensuring that the level of analysis, documentation, and actions used to comply with a requirement are commensurate with: (1) the relative importance to safety, safeguards, and security; (2) the magnitude of any hazard involved; (3) the lifecycle stage of a facility; (4) the programmatic mission of a facility; (5) the particular characteristics of a facility; (6) the relative importance of radiological and non-radiological hazards; and (7) any other relevant factor.

Appendix A – Acronyms/Definitions (Continued)

Hazard – Any source of danger (i.e., material, energy source, or operation) with the potential to cause illness, injury, or death to a person (workers or the public), or damage to a facility, or to the environment (without regard to the likelihood or credibility of accident scenarios or consequence mitigation). Evaluation and analysis of hazard for work can be divided into two primary components, general JHA, which defines hazards and controls based on the work location and environment, and activity-specific hazards in the work instruction, which defines hazards and controls based on the work steps that must be performed to complete the task.

Hazard Controls – Specifically tailored or identified controls that are established, or verified to be in place, to eliminate, or mitigate a hazard associated with the work. Hazard controls may be passive or active and may include engineering or administrative controls, or, if necessary, the use of personal protective equipment.

Hazardous Waste Operations and Emergency Response – Work activities meeting the definition of "Hazardous Waste Operations" in accordance with 29 CFR 1910.120 or 29 CFR 1926.65.

HHRB – A board that provides independent management review of hazardous work through the evaluation of relevant Work Packages and interviews with personnel overseeing the work.

Hold Points – Work instruction steps in the Work Package at which the worker must wait for another person to do something or for some other event to occur to ensure protection of workers, facilities or the environment. Examples include radiological protection surveys, quality assurance inspections and industrial hygiene samples.

Job Hazards Analysis (JHA) – A documented analysis for specific activity-level work; identifies health and safety hazards specific to a process, work step or work environment/location and defines controls to eliminate or mitigate hazards to protect personnel and the environment.

Nuclear Safety (NS) – The PGDP D&R functional group that is responsible to establish and maintain Safety Basis requirements for each facility and to verify that planned work or work documents will not violate Safety Basis requirements.

Operable/Operability – A system, subsystem, train, component, or device shall be operable when it is capable of performing its specified function(s); and when all necessary attendant instrumentation, controls, electrical power, cooling or seal water, lubrication, or other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its specified function(s) also are capable of performing their related support function(s). The operability of a system, subsystem, component, or device shall be verified by performing surveillance requirements (SRs) at the identified frequency.

Pause Work – A request by any employee for a pause in the work activity, including clarification or resolution on a potential problem, concern, or issue. Work is resumed upon satisfactory resolution of the identified issue.

Planning Team – The group of individuals, as determined by the level of risk, who incorporate all PGDP D&R contract, programmatic and procedural requirements, quality standards, and operational efficiencies derived from the training and experience of the workforce, along with the principles and functions of Integrated Safety Management System (ISMS), are incorporated into the work controls required to complete that work scope.

Quality Assurance – The PGDP D&R functional area that is responsible for incorporating the Quality Assurance requirements specified in applicable standards and procedures into the work planning process including the establishment of applicable quality objectives and performance measures.

Regulatory Compliance – The PGDP D&R functional area that is responsible for defining applicable environmental regulations and standards, and to define requirements for implementation of the Environmental Management System and controls during the work planning process. This includes the establishment of applicable environmental compliance performance measures.

Revision – A change to a Work Package that requires full review by affected parties of the planning team.

Safety Significant Structure, System, or Component – SSCs which are not designated as safety class SSCs but whose preventive or mitigating function is a major contributor to defense in depth and/or worker safety as determined from safety analyses.

Appendix A – Acronyms/Definitions (Continued)

Stop Work – Declared formal suspension of a work activity if a situation poses an imminent danger to the safety of workers, public, stakeholders, visitors, other site tenants, or the environment.

Structure, System, or Component (SSC) – Physical items designed, built, or installed to support the operation of the facility. A structure is an element or a collection of elements to provide support or enclosure such as a building, freestanding tank, basin, dike, or stack. A system is a collection of components assembled to perform a function such as piping; cable trays; conduits; or heating, ventilation, and air conditioning. A component is an item of equipment such as a pump, valve, or relay or an element of a larger array such as a length of pipe, elbow, or reducer.

Subject Matter Expert – A person assigned to a system, program, project, discipline, equipment, or other topic, who has comprehensive knowledge and relevant expertise based on qualification, training, experience, and/or education. His/her responsibilities include serving as the authority for development and/or interpretation of performance documents within his/her subject matter area.

Task or Process – A sequence of work steps that have identifiable starting conditions and, if correctly performed, will achieve a specified endpoint result. Processes are the "building blocks" for completing activities.

Work Package – The assembled work instruction and ancillary documentation to perform work. This includes Craft and Detailed Work Packages.

Waste Management – The PGDP D&R functional area responsible for incorporating applicable waste management and hazardous materials transportation requirements into work control documents. Specific Waste Management functions may include establishing waste identification, characterization, packaging, manifesting, transportation, and disposition requirements based on the wastes being generated by the work scope.

Work Scope – A defined project or group of work activities that must be performed to meet a defined end state or the sum total of all information needed for a clear understanding to achieve a defined end state.

Appendix B – Activities Excluded from the Work Planning Process

Some activities graded as low complexity and low hazard are "excluded" from WPC processes. These "exclusions" are low risk activities involving minimal potential for exposure to hazardous contaminants and health and safety hazards. Exclusions must meet the requirements for Low Complexity and Low Risk as defined in Appendix D.

Exclusions may be performed as ancillary tasks associated with higher hazard work activities, provided the established hazard controls are adequate to protect workers performing the excluded activity and performance of the activity does not introduce additional hazards. Specific work activities that are within the scope of any approved Work Instruction, including performance documents designated for use as Work Instruction, may not be performed under an exclusion. In accordance with CP3-OP-0207, *Use of Procedures*, all such activities must be performed as specified in the applicable procedures or other Work Instructions.

Excluded activities include the following:

1. Delivery, pickup, or movement, including vendor deliveries, of supplies, materials, or equipment by an authorized subcontractor or vendor.

2. Administrative activities such as attendance of meetings, work planning, report writing, training, recordkeeping, accounting, filing, or other similar work activities normally conducted in an office environment.

3. Operation and onsite minor maintenance/repair of office-associated machines and equipment (for example, copiers, printers, personal computers, vending machines) and arrangement of office furnishings.

4. Operation of golf and/or utility carts, passenger vehicles, trucks and other highway conveyance for general site use or for transport of packaged materials or nonhazardous commodities.

5. Operation of emergency equipment and vehicles, and, within the confines of the DOE Paducah reservation, operation of utility support vehicles by qualified plant personnel as necessary to maintain utilities.

6. Operation of powered industrial trucks or tracked material handlers (for example, "Bobcat" type handlers) by qualified operators for routine material handling operations.

7. Operation of scissors or aerial lifts by qualified operaters for routine operations.

8. Operation of industrial equipment (wheeled or tracked) by qualified operators for relocation of equipment between work sites but does not include any hoisting, rigging, lifting, or excavation activities.

9. Manual material handling of materials and items that do not present an industrial hygiene or radiological exposure hazard to material handlers.

10. Battery charging and load testing of nickel cadmium, lithium-ion, nickel metal hydride, or other sealed batteries and power tools, communication equipment or other devices containing these types of batteries.

Appendix B – Activities Excluded from the Work Planning Process (Continued)

11. Performance of activities required to maintain general housekeeping and sanitation in managed areas that do not require any hazard-associated administrative access controls or job-specific permits for entry.

12. Janitorial activities (including routine servicing of portable toilet facilities).

13. Handling nonhazardous sanitary or industrial trash/refuse.

14. Animal/Insect control.

15. Civil surveying.

16. Assembly of items received unassembled or partially assembled.

17. Routine environmental monitoring/sampling/surveys and inspections. This does **NOT** include sampling for characterization of systems/facilities for S&D activities and/or waste characterization.

18. Use of portable ladders within the controls and requirements of CP3-HS-2011, *Portable Ladders,* to perform excluded work activities.

19. Training activities conducted in a controlled training environment or training laboratory setting. The work must be performed within the requirements of the CP2-TR-0100, *Training Program*, under the supervision of a qualified trainer.

20. Tours, inspections, and site visits conducted in areas of the site where the participants are trained, or are under the direct control of a worker with sufficient training, to follow posting requirements, properly interpret and respond to plant alarms, and follow instructions issued by safety, radiological control (RADCON), or emergency response personnel.

21. Reset fire alarm panels by Fire Protection Personnel.

22. Routine relamping.

23. Shop fabrications and repairs, excluding those requiring the use of hotwork.

24. Vehicle and equipment fueling, inspection, maintenance, and basic repairs.

25. Warehouse operations.

26. Maintenance and testing of emergency safety lights, exit signs, and portable safety eyewash/shower units.

27. Resetting of electrical breakers.

28. Work performed in maintenance shops that does **NOT**:

- Affect installed plant equipment,
- Require the issuance of a permit (e.g., RWP, IHWP, hotwork, etc.),
- Require adherence to NCS controls,
- Have the potential to expose the worker to hazardous chemicals requiring the use of PPE.

Appendix B – Activities Excluded from the Work Planning Process (Continued)

29. Routine indoor plumbing work on items such as toilets, sinks, showers, etc. that does **NOT** include exposure to sewage **or** require the issuance of a permit (e.g., RWP, IHWP, hotwork, TEP, etc.).

30. Routine carpentry work on items such as decks, stairs, trailers, etc. that does **NOT** require the issuance of a permit (e.g., RWP, IHWP, hotwork, TEP, etc.)

31. Emergency response actions performed as immediate response or supplemental response to an emergency condition. This includes actions identified in emergency action plans, emergency response plans, or other approved contingency plans.

Appendix C – Reviewer Determination Matrix

Use the matrix below to determine the minimum requirements for work planning team review in the development of Work Packages. More than one criterion may apply to a work task.

Review Criteria	Reviewers														
	Safety & Health	S&D/System Engineering	Facility Manager	NFM *	Radiological Control	Waste Operations/ Engineer	Waste Cert. Official	Regulatory Compliance	NCS	NS	Safeguards & Security	NMC&A	Quality	Character-ization	Craft
All Work Tasks	X		X					X							X
All Type 1: Work Instructions Involving the isolation, breaching, or downsizing of Process Gas systems.		X			X				X	X			X		
Work Tasks on systems or processes that are QL-1, QL-2 or QL-3		X							X	X			X		
Work Tasks in Nuclear Facilities									X	X		X		X	
Facility Change Travelers and/or Modifications		X							X	X				X	
Work on or work impacting a Safety Significant SSC		X		X					X	X			X	X	
Work Tasks that involve potential exposure to radiological contaminants					X										
Work Tasks that include the disposition of Hazardous (RCRA or TSCA), Radioactive, or Mixed (Hazardous/Radioactive) Waste						X								X	
Work Tasks that include packaging and/or transportation of Hazardous Materials						X								X	
Work Tasks that include packaging, transport, or disposition of waste under NNSS certification requirements.						X	X					X		X	
Work Tasks that require interface with, or approval of, regulatory agencies.														X	
Work Tasks that includes handling or management of fissile material.									X	X		X		X	
Work Tasks that require NCS controls be established during work execution.									X	X					
Work Tasks that Involve Accountable Nuclear Material									X	X		X		X	
Work Tasks in Areas of Security Interest or that could result in compromise of classified information if not properly controlled.											X				
Work on Fire Protection Systems and any system containing flammable fluids.		X													
All work activities in a SWMU															

"X" designates a participant or reviewer. * NFM may review TIs that affect multiple facilities for the FM.
See Appendix E for reviewer responsibilities.

Appendix D – Work Planning Rigor Based on Performance Risk

NOTE:

Process gas system deactivation and dismantling will be performed with a Type I Work Package.

WORK PACKAGE TYPE DETERMINATION				
RISK	High	Type 1: Work Package	Type 1: Work Package	Type 1: Work Package
	Moderate	Type 3: Work Package	Type 2: Work Package	Type 1: Work Package
	Low	Type 3: Work Package	Type 2: Work Package	Type 2: Work Package
		Low	Moderate	High
		COMPLEXITY		

Type 1 = Detailed Work Package

Type 2 or 3 = Craft Work Package

Chg A

Complexity: For evaluating complexity as a component of performance risk, the following grading system is used:

If the answer to any of the following questions is "yes", then the activity is high complexity.

- Are some of the work activities beyond the established competencies, functional training, or experience of the workforce?
- Will the work scope require involving multiple integrated work activities to be performed at the same time in different facilities or work locations?
- Will a deviation in sequence or method of performance be likely to result in the failure to achieve desired results.
- Will the job require significant supervisory oversight and technical support to be present at the job site at least 90% of the time?

If the answer to all of the above questions is "no" and the answer to any of the following questions is "yes", then the activity is moderate complexity.

NOTE:

Minor changes, such as those accomplished with facility change travelers, to facilities and/or systems that meet the criteria of a low complexity activity may be performed through the use of a type 3 Work Package.

- Is the activity a facility or system modification that must be accomplished through the nuclear modification process?
- Does the work scope require sequencing multiple work crews and/or activities?
- Will deviation in sequence or method of performance potentially result in a failure to achieve desired results?

Appendix D – Work Planning Rigor Based on Performance Risk (Continued)

- Does the work scope require active supervisory oversight or technical support to be present at the job site at least 50% of the time?
- Do the work activities implement the requirements of a Nuclear Criticality Safety Evaluation in accordance with CP3-NS-1031, *Nuclear Criticality Safety Program*?
- Do the work activities potentially affect the performance, configuration, or operability of a safety significant SSC, as defined by the Documented Safety Analysis (DSA)?

If the answer to all of the above questions is "no" and the answer to any of the following questions is "yes", then the activity is low complexity.

- Are the activities within the functional training, qualifications, and established competencies of the workforce performing the activity?
- Are the activities routine and well understood by the workforce performing the activity?
- Does the work scope require little or no supervisory oversight or technical support to be present less than 50% time at the job site?
- Will standards of good workmanship and craft skill be relied upon to define method and sequence of performance to achieve desired results?
- Will deviation in sequence or method of performance not impact the desired result?
- Are the activities within the functional training, qualifications, and established competencies of the workforce performing the activity?

Risk: For evaluating risk to workers and/or the environment as a component of performance risk, the following grading system is used.

If the answer to any of the following questions is "yes", then the activity is high risk.

- Will the work be performed in uncharacterized work locations or on uncharacterized systems where exposure potential to radiological or chemical hazards is not well understood or cannot be bounded based on available data or process knowledge?
- For characterized work locations or systems, are any of the following are applicable?
  - **1)** The work environment is immediately dangerous to life or health.
  - **2)** In the event of the failure of a single mitigating hazard control, the worker will be exposed to chemical or radiological hazards or contaminants above allowable exposure limits before the worker can exit the work location.
  - **3)** In the event of the failure of any single hazard control the worker will sustain serious or fatal injury from physical hazards before the worker has the opportunity to take action or respond.
  - **4)** Potential for environmental impact is high based on the contaminants present and the work contemplated.
  - **5)** The work is a deactivation activity involving a process gas system.

Appendix D – Work Planning Rigor Based on Performance Risk (Continued)

NOTE:

Use of "hot-stick" testing methods of potentially energized systems, regardless of voltage, by qualified personnel, such as electrical maintenance is considered level 3 if the following is true:

- Work is performed from a non-conducting work surface.
- Worker will not be inside the restricted approach boundary of either the system being tested or any other energized systems.

- Will a qualified worker, such as electrical maintenance, be working on or near (within the restricted approach boundary) energized systems above 600 volts?
- Will an unqualified worker, such as maintenance mechanics or operators, be working on or near (within the limited approach boundary) energized systems above 600 volts?

If the answer to all of the above questions is "no" and the answer to any of the following questions is "yes", then the activity is moderate risk.

NOTE:

- Level 2 risk tasks generally include work in areas requiring job specific radiological work permits or other administrative controls to limit access due to the presence of chemicals or radiological contamination.
- Any work activities requiring respiratory protection is at least level 2 risk.

- Does the work scope present hazard potentials that are greater than the general site hazards (reference site wide JHA), but the hazards are characterized, well understood, controllable, and not likely to cause serious or fatal injury with appropriate controls in place such as, engineering or administrative controls, or by appropriate use of personal protective equipment (PPE)?
- Is the potential for exposure to hazardous chemicals, radiological constituents, or physical contaminants such as asbestos, within established exposure limits and/or administrative control levels?
- Will the worker have the opportunity to take action or respond in the event of the failure of a single hazard control that is protecting the worker from sustaining serious or fatal injury from physical hazards?
- Will a qualified worker, such as electrical maintenance, be working on or near (within the restricted approach boundary) energized systems from 51 volts to 600 volts, beyond testing, troubleshooting, voltage measuring, etc?
- Will an unqualified worker, such as maintenance mechanics or operators, be working on or near (within the limited approach boundary) energized systems from 5 1 volts to 600 volts?
- Will a qualified worker, such as electrical maintenance, be working on or near (within the limited approach boundary) energized systems above 600 volts?
- For radiological or chemical work, will the worker be able to exit the work location prior to being exposed to chemical or radiological hazards or contaminants above the allowable exposure limits in the event of the failure of a single mitigating hazard control?
- Moderate hazard tasks generally include work in areas requiring job specific radiological work permits or other administrative controls to limit access due to the presence of chemical contaminants or radiological contamination.

Appendix D – Work Planning Rigor Based on Performance Risk (Continued)

<u>If the answer to all of the above questions is "no" and the answer to any of the following questions is "yes", then the activity is low risk.</u>

NOTE: Low risk tasks generally include work in office facilities or other areas of the plant that are posted for control of low-level radiation hazards (where workers are unlikely to be exposed to radiological or chemical contamination).

- Are the hazards are limited to those present in an industrial or construction work environment as defined in the site or facility general safety requirements and associated general hazard analysis?
- Is the potential for exposure to hazardous chemical or radiological constituents is low and further limited by administrative site controls including hazard communication, postings or general radiological work permits?
- Will a qualified worker, such as Electrical Maintenance, be conducting testing, troubleshooting, voltage measuring, etc., of potentially energized systems up to 600 volts where the hazards are controlled through safe work practices and PPE?
- Will a qualified worker, such as Electrical Maintenance, be working on energized electrical systems where the voltage is no greater than 50 volts?
- Will a qualified worker, such as Electrical Maintenance, be working on a de-energized electrical system that has been either airgapped or is on LOTO (single source or permitted)?
- Will an unqualified worker, such as maintenance mechanics or operators, be working on a de-energized electrical system that has been airgapped and verified, or a zero energy check has been performed by a qualified person, such as electrical maintenance in the presence of the unqualified worker?
- Will a qualified worker be exposed to live parts of an electrical circuit with a potential of greater than 50 volts, excluding the testing of energized electrical circuits no greater than 600 volts or work on energized electrical equipment from a non-conducting work surface using properly inspected non-conducting "hot-stick" equipment?

Appendix E – Reviewer Requirements

NOTE: All reviewers should review Work Packages in the context that it will be performed as written. The objective of the Work Package is to provide instructions that when executed as written, the worker should have no fear of violation.

Safety and Health:

- Scope of work is clear,
- Hazards understood, and controls are adequate to safely perform work,
- Required permits are identified and available **or** planned for/referenced.
- Determine when Industrial Hygiene monitoring, is required.
- Verify Hold Points for critical steps are included

Engineering:

- Technical content of instructions are consistent with appropriate contract and industry engineering standards.
- Review to ensure configuration management is applied on a graded approach.
- Ensure Quality Assurance (QA) Hold Points are identified and incorporated into appropriate steps.
- Ensure adequacy of PMT steps and acceptance criteria, as applicable.
- Relevant drawings are included.
- Changes and/or modifications are properly planned.

Facility Manager:

- Reviews Work Packages to ensure that the work can be performed within the facility safety basis,
- Actions required to maintain the safety envelope are understood,
- Necessary limiting conditions for operation (LCO) are identified,
- Prerequisites needed to perform the work are identified in the package.

Nuclear Facility Manager:

- Reviews Work Packages to ensure that the work that affects the operability of a safety significant SSC to ensure that appropriate compensatory measures are/will be in place at the time of execution.

Radiological Control:

- Reviews Work Packages to ensure that the work is performed in a manner consistent with ALARA,
- Required permits are identified and available **or** planned for/referenced.
- Determine when RADCON monitoring/surveying, is required.

Waste Management:

- Review for appropriate regulatory compliance regarding waste and transportation.
- Ensure work that involves hazardous/radioactive/mixed waste includes appropriate steps to assure compliance.
- Ensure level of detail in instructions involving waste generation, handling, packaging, and/or movement is adequate.

Waste Certification Official:

- Reviews Work Packages to ensure that the work is compliant with NNSS certification requirements.

Appendix E – Reviewer Requirements (Continued)

Regulatory Compliance:

- Reviews Work Packages to ensure that the work is compliant with all regulatory requirements,
- Appropriate regulatory interfaces and reporting requirements are identified,
- Prerequisites needed to perform the work are identified in the package.

Nuclear Criticality Safety:

- Reviews Work Packages to ensure the proper handling of fissile material,
- NCS controls and commitments are properly identified.

Nuclear Safety:

- Review Work Package to ensure performance of surveillance requirements meet the intent of the facility TSR.
- Ensure work that may result in a configuration change does **NOT** conflict with facility DSA.
- Review to ensure safety significant, LCO, and/or facility impacts are understood.
- Review activities for impact on the safety basis, for USQ screening/determination.

NMC&A:

- Review Work Package to ensure that accountable nuclear material is properly handled.
- Review work scopes to be performed in an Fissile Control Area (FCA).
- Accountable nuclear material is properly transferred.

Quality:

- Review Work Package to ensure quality Hold Points are properly identified.
- Review Work Package to ensure the graded approach is being utilized according to CP3-QA-1001, *Graded Approach.*

Characterization:

- Ensure adequate process knowledge exist to properly identify the characteristics associated with the item or system being dealt with and/or
- Determine when samples will be collected and/or radiological surveys will be performed to properly identify the characteristics associated with the item or system being dealt with.

Appendix F – Forms Required

The approved forms listed below are required for implementation of the processes defined in this procedure. These forms can be found on the PGDP D&R intranet server at **S:\Controlled Documents\APPROVED FORMS**.

- CP3-SP-0019-F01, *Craft Work Instruction*
- CP3-SP-0019-F02, *Detailed Work Instruction*
- CP3-SP-0019-F03, *Subcontractor Work Package Cover Sheet*
- CP3-SM-1101-F04, *Pre-Job Brief/Status Log*
- CP3-SM-1101-F13, *Work Control Status Log Continuation Sheet*
- CP3-SM-1101-F15, *High Hazard Review Board Form*