



*One Team. One Culture.*

## Administrative Procedure

# PRC-PRO-WKM-079

## Job Hazard Analysis

Revision 9, Change 4

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Program: Work Management

Topic: Work Management

Technical Authority: Young, Michael

Functional Manager: Ferguson, Randy

## Use Type: Administrative



- Solid Waste Operations Complex :  
**Screening Determination Performed: (Screening/Determination Performed (no issues))**  
GCX-7 (SWOC-18-091)  
 **Screener:** Geary, Daniel
- Canister Storage Building/Interim Storage Area :  
**Categorical Exclusion:** GCX-7 (Minor Change)  
**Screener:** Garrett, Robert
- Central Plateau Surveillance and Maintenance :  
**Categorical Exclusion:** GCX-7 (Minor Change)  
**Screener:** Waller, Mitchell
- Waste Encapsulation Storage Facility :  
**Categorical Exclusion:** GCX-7 (Minor Change)  
**Screener:** Garrett, Robert
- 100 K Facility :  
**Categorical Exclusion:** GCX-7 (Minor Change)  
**Screener:** Oberg, Brian
- Plutonium Finishing Plant :  
**Categorical Exclusion:** GCX-7 (Minor Change)  
**Screener:** King, Jeffry
- Transportation :  
Excluded from USQ  
**Exclusion Reason:**  
N/A per Section 1.3.
- 324 Facility :  
**Categorical Exclusion:** GCX-7 (Minor Change)  
**Screener:** Enghusen, Mark

**JHA:** Administrative

**Periodic Review Due Date:**09/05/2023

**Publication Correction:**07/29/2020

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## Change Summary

### Description of Change

Gives examples of when a physical walkdown of the worksite may be waived such as High Radiation, Fall Hazard, IDLH Confined Space. "Routine Work" is not adequate to waive. The work site matters. Elevates the authority to waive from TA to FM.

Publication correction: close integrated change request

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### 1.0 INTRODUCTION

#### 1.1 Purpose

This procedure establishes the requirements for integrating activity-based job hazard analyses into field work. The job hazard analysis (JHA) process is used to identify, evaluate, control, and communicate potential hazards relative to discrete work activities or tasks to be performed. The JHA process is an integral part of the CH2M HILL Plateau Remediation Company (CHPRC) development of technical work documents (TWD) via the processes identified in PRC-PRO-WKM-12115, *Work Management*, PRC-PRO-MS-589, *CH2M HILL Plateau Remediation Company Procedures*, and PRC-PRO-MN-19304, *Periodic Maintenance Process*.

#### 1.1 Scope

This Level 2 procedure applies to the analysis of task-specific hazards that may be encountered during the execution of CHPRC work activities. Application to subcontractors will be as specified or excluded in the Statement of Work (SOW) or approved safety plan, as described in PRC-PRO-SH-40078, *Contractor Safety Practices*.

The following documents are exempted from having a hazard analysis performed per this procedure:

- Emergency Response Procedures (ERP) – ERPs are performed by trained and qualified emergency responders under the Emergency Management System (EMS). Hazards and controls associated with emergency actions are evaluated and implemented as part of the EMS process.
- Radiological Surveillances developed per PRC-PRO-RP-40029, *Required Radiological Surveillances*. This assumes no beyond skill-based hazards other than radiological. If other beyond skill-based hazards are present for the surveillance activities, then they must be planned in accordance with PRC-PRO-WKM-12115 and analyzed per this procedure.

#### 1.2 Applicability

This procedure applies to work activity hazard analyses (AHA) performed as required by procedures PRC-PRO-WKM-12115, PRC-PRO-MS-589, and PRC-PRO-MN-19304.

Work contracted through a SOW will define the mechanism for hazard analysis, whether through this procedure or a job hazard analysis (JHA) developed by the subcontractor and reviewed by CHPRC Occupational Safety & Industrial Hygiene (OS&IH) in accordance with PRC-PRO-SH-40078. The incorporation of controls, regardless of the mechanism used to develop the hazard analysis, shall be completed in a manner that complies with this procedure.

#### 1.3 Implementation

This procedure is effective upon publication for new work documents and those in the planning phase not yet submitted for review and approval.

Hazard analyses developed to support work documents/instructions per PRC-PRO-WKM-12115 or PRC-PRO-MN-19304 that are in or past the review and approval phase of the respective

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administrative process may proceed as planned per the published revision of this procedure at that time. Changes to these hazard analyses will conform to this revision.

Hazard analyses that support TWDs or PM/S activities developed per PRC-PRO-MN-19304 will be updated according to the periodic review schedule.

Hazard analyses that support technical procedures developed per PRC-PRO-MS-589 will be updated according to the respective procedure's periodic review schedule.

**2.0 RESPONSIBILITIES**

Training and qualification requirements are contained in PRC-STD-TQ-40380, *Work Management Training Program Description*.

**2.1 Project Technical Services**

Project Technical Services is responsible for development, maintenance, and assessment of the CHPRC JHA program to include:

- Develop and maintain the JHA procedures and training;
- Maintain JHA Checklist content and functionality;
- Assignment of the JHA Technical Authority (TA) who serves as the program subject matter expert (SME);
- Coordinate with Project/Facilities on input into the JHA Checklist; and
- Maintain the General Hazard Analysis (GHA) and Craft Hazard Analysis (CHA) documents.

**2.2 Facility/Project**

The Facility/Project has the responsibility for implementing the requirements of this procedure and staffing the following positions.

**2.2.1 JHA Coordinator**

JHA Coordinators are typically planners, technical procedure writers, and TAs who are designated by the facility management they support to initiate and facilitate the JHA process. They assist facility/project personnel in the use of the JHA Checklist.

**2.2.2 Responsible Manager (RM)**

An individual accountable and responsible for the implementation of this process for TWDs created per PRC-PRO-WKM-12115.

**2.2.3 Technical Authority (TA)**

An individual accountable and responsible for the implementation of this process for technical procedures created per PRC-PRO-MS-589 and PM/S work instructions created per PRC-PRO-MN-19304.

**Job Hazard Analysis****Published Date: 03/17/20****Effective Date: 03/17/20****2.2.4 Functional Manager (FM)**

An individual accountable and responsible for the implementation of this process by the TA for technical procedures created per PRC-PRO-MS-589 and PM/S work instructions created per PRC-PRO-MN-19304.

**2.2.5 Subject Matter Expert (SME)**

An individual who, by virtue of education, training, and/or experience, is a recognized authority on a particular subject, topic, or system, and has been assigned by management to represent a specific area of expertise in the hazard analysis process. The SME is responsible in the JHA process to participate in the work site walkdowns, roundtables, hazard identification, hazard analysis, and hazard control selection.

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### 3.0 PROCESS

#### 3.1 Hazard Analysis Tools

##### 3.1.1 General Hazard Analysis (GHA)

Each employee performing work for CHPRC is expected to work safely and to maintain a safe work environment. All CHPRC employees will review the GHA annually.

The GHA identifies the control measures for routine industrial hazards common to the core activities of all CHPRC workers in their assigned job positions. The GHA also identifies hazards that are common among the skill sets of most Hanford Atomic Metal Trades Council (HAMTC) and Building Trades Workers. Employees are trained to recognize these hazards and controls through the annual CHPRC General Employee Training (CGET) with additional training specific to hazards. The GHA is a basis for establishing work that may be considered skill-based.

GHA hazards and controls are not normally covered in work instructions or technical procedures. The GHA does not cover the environment in which these activities may be performed. The GHA is published on the Hanford Local Area Network (HLAN) web site, <http://prc.chprc.rl.gov/rapidweb/WC/index.cfm?PageNum=9>.

##### 3.1.2 Craft Hazard Analysis (CHA)

Each craft person is required to be a journeyman in their discipline or under the supervision of a journeyman when performing work. All CHPRC craft workers will review the applicable CHA annually.

A CHA is documented for each craft discipline and includes the hazard analysis for work activities that a journeyman craftsman performs routinely with limited work instructions. The craftsman obtains training and experience in identifying and controlling applicable hazards through journeyman training, as defined in the bargaining unit contracts and manager-assigned training. The controls listed in the CHA are beyond those listed in the GHA that the craftsman with journeyman skills is expected to utilize in the performance of their daily work to mitigate hazards, and therefore do not need to be documented in work instructions.

These hazards and controls are not normally covered in work instructions or technical procedures. The CHA documents do not cover the environment in which these activities may be performed. CHA documents are published on the HLAN web site, <http://prc.chprc.rl.gov/rapidweb/WC/index.cfm?PageNum=9>.

##### 3.1.3 Work Location Hazards Identification

The hazards associated with the work environment must be considered along with the hazards of the work activity itself. Site Form A-6006-300, *Work Location Hazards Identification*, is an optional tool available for CHPRC facilities to use for identifying and communicating known worksite hazards to assist in the hazard analysis and work planning processes. It may also be used to communicate hazards to other Hanford contractors developing work as a managed task.

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### 3.1.4 JHA Checklist

An activity-level *Job Hazard Analysis Checklist* (JHA Checklist), Site Form A-6006-681, shall be prepared for each work activity determined to be beyond skill-based. The analysis assesses each aspect of the work activity to identify hazards that can reasonably be expected during the performance of the work, and then determine appropriate controls for the identified hazards. The checklist is designed to support cross hazard evaluation and de-confliction of selected controls.

### 3.1.5 Subcontractor Job Hazard Analysis (JHA)

Work activities performed by a subcontractor working to a SOW will undergo hazard analysis by the means specified in the SOW. If the hazard analysis process is not specified in the SOW, then the process in this procedure shall be used.

### 3.2 Hazard Analysis Determination: Skill-Based or Beyond Skill-Based

Skill-Based is a hazard level category in the CHPRC hazard analysis process for work where employees, based on their fundamental trade knowledge and/or training provided by CHPRC, can reasonably:

- be expected to recognize and mitigate hazards without the controls being stated in a TWD, and
- comply with requirements as prescribed by the appropriate SME screening/analysis/assessment (e.g., permits, plans, personal protective equipment [PPE], controls).

Skill-based controls are not required to be incorporated in the TWD. Skill-based controls associated with the proposed activity may be implemented via various approved methods (e.g., postings, permits, plans).

Beyond Skill-Based are those activities and/or hazards that trigger criteria in Appendix B and require a hazard analysis for the entire work scope and incorporation of beyond skill-based controls.

Actionee	Step	Action
<b>NOTE:</b>	<i>The work scope and work instructions should be defined to the level of detail that is practical to facilitate the identification of industrial health and safety hazards prior to starting the JHA process.</i>	
RM/TA/ JHA Coordinator	1.	REVIEW the work scope and work site for each task within the scope.
	2.	IDENTIFY the hazards for the scope tasks, including input from members of the planning team.



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Actionee	Step	Action
<b>NOTE:</b>	<ul style="list-style-type: none"> <li>• <i>If any activity, control, or condition of the work scope is beyond skill-based, the work scope is considered beyond skill-based.</i></li> <li>• <i>An activity or hazard not identified within the GHA, CHAs, SME documents, or defined in Appendix B are considered beyond skill-based.</i></li> </ul>	
RM/TA	<ol style="list-style-type: none"> <li>3. DETERMINE if the work scope requires a JHA in accordance with the criteria established in Appendix B, based upon the complexity of risk and hazards using: <ul style="list-style-type: none"> <li>• GHA to identify evaluated and documented general activities, controls, and/or conditions considered skill-based;</li> <li>• Applicable CHAs to identify evaluated and documented craft-specific activities, controls, and/or conditions considered skill-based;</li> <li>• SME screening, analysis, and/or assessment to evaluate identified hazards.</li> </ul> </li> <li>4. <u>IF</u> the work scope is determined to be skill-based, <u>THEN</u> DOCUMENT the skill-based determination: <ul style="list-style-type: none"> <li>• For work documents per PRC-PRO-WKM-12115 and PM/S activities per PRC-PRO-MN-19304, SELECT skill-based in the Job Control System (JCS) fields for that purpose.</li> <li>• For technical procedures per PRC-PRO-MS-589, SELECT Technical-Skill-based in the PRC Procedure System (PPS) field.</li> <li>• EXIT this procedure.</li> </ul> </li> <li>5. <u>IF</u> the work scope is determined to be beyond skill-based, <u>THEN</u> DOCUMENT the beyond skill-based determination: <ul style="list-style-type: none"> <li>• For work documents per PRC PRO-WKM-12115 and PM/S activities per PRC-PRO-MN-19304, SELECT “BSB” or “JSA-Const.” in the Job Control System (JCS) fields for that purpose.</li> <li>• For technical procedures per PRC-PRO-MS-589, SELECT “Technical-JHA” in the PRC Procedure System (PPS) field.</li> </ul> </li> </ol>	

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### 3.3 Beyond Skill-Based Hazard Analysis

For work scope that includes any activity determined to be beyond skill-based, a documented activity-level hazard analysis shall be prepared using one of the authorized tools (e.g., JHA Checklist, JHA/AHA).

Actionee	Step	Action
RM/TA/JHA Coordinator	1.	IDENTIFY individuals to participate on the Hazard Analysis Team.
JHA Coordinator	2.	DEVELOP draft hazard analysis using the JHA Checklist. <ul style="list-style-type: none"> <li>• IDENTIFY site and task specific hazards, exposures, or constraints.</li> <li>• IDENTIFY interfacing hazards from co-located work impacts based on known and expected site conditions.</li> <li>• IDENTIFY interfacing hazards from multiple work documents conducted in the same area or to support completion of a larger project.</li> <li>• CONSIDER any potential hazards for changing conditions.</li> <li>• REVIEW applicable work history (e.g., work documents, JHAs, and lessons learned).</li> </ul>
	3.	PERFORM Hazard Review Board screening per PRC-CHRT-WKM-53060, <i>Hazard Review Board</i> .
<b>NOTE:</b>		<i>A physical walkdown of the area may be waived by the RM/FM when it creates a greater hazard to the Hazard Analysis Team, (e.g., High Radiation, Fall Hazard, IDLH Confined Space).</i>
Hazard Analysis Team	4.	WALK DOWN the work location(s).
	5.	IDENTIFY the potential hazards relating to the work activities and work site conditions.
JHA Coordinator	6.	UPDATE the identified hazards in the draft JHA.
SME	7.	COMPLETE necessary analyses, assessments, permits, and/or plans, identifying hazard controls using the following hierarchy of controls: <ol style="list-style-type: none"> <li>a. Elimination or substitution of hazards where feasible and appropriate</li> <li>b. Use of engineered controls</li> <li>c. Work practices and administrative controls</li> <li>d. Use of personal protective equipment (PPE)</li> </ol>

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<i>Actionee</i>	<i>Step</i>	<i>Action</i>
Hazard Analysis Team	8.	<p>REVIEW the hazards, analyses, permits, and forms that include hazard controls, and the controls appropriate for the work scope to ensure:</p> <ul style="list-style-type: none"> <li>a. Additional hazards are not created due to the selected controls.</li> <li>b. Conflicts do not exist between controls (e.g., PPE requirements for radiological hazards do not conflict with PPE requirements for Industrial Hygiene hazards or create a greater hazard).</li> <li>c. Hazards that will likely change in magnitude during the work are addressed for the most likely circumstances (e.g., ambient temperatures during work that will be performed outdoors).</li> </ul>
JHA Coordinator	9.	DOCUMENT the results of the hazard identification, hazard analysis, selection of controls, and method of control implementation in the JHA Checklist.
JHA Coordinator	10.	RECORD participation in the hazard analysis on the JHA Checklist signature sheet or on the <i>CHPRC Work Planning Roster / Comment Form</i> (Site Form A-6005-916).
SMEs	11.	REVIEW <u>AND</u> APPROVE the hazard analysis on the JHA Checklist.
RM / TA	12.	REVIEW <u>AND</u> APPROVE the hazard analysis on the JHA Checklist ensuring completeness, technical accuracy, and controls identified for activities are appropriate.

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### 3.4 Incorporation of Hazard Controls into the TWD, Retention of JHA Documents

Skill-based controls may be included in the TWDs at the request of the Planning Team and are not required to be included in the JHA.

Beyond skill-based controls must be implemented within the work instructions or supporting document(s) for the work activity unless the planning team concurs that beyond skill-based controls can be left out, and documents the justification within the comment section of the JHA Checklist. When these controls are implemented into the TWD, they should be tailored as appropriate for the worker training and experience, and for specific circumstances.

Methods of implementation are used to identify how the required hazard controls are to be implemented or identified in the TWD. In order to effectively communicate the necessary controls to mitigate hazards, the following additional guidelines should be used to select the methods of implementation:

- Precautions & Limitations/Prerequisites – Selected if the control must be placed and verified as complete prior to the start of work (Prerequisites), or applies to the entire scope of the work activity (Precautions & Limitations).
- Work Instruction – Provided through incorporating specific steps and step sequencing within the work instructions (may be accompanied by use of CAUTION/WARNING statements).
- Permit/Plan/Checklist – Selected when controls, requirements, or actions are specified in a permit, plan, or checklist (e.g., RWP, Beryllium Work Permit [BWP], Hanford Site Electrical Risk Assessment).

Actionee	Step	Action
Planner/TA	1.	INCORPORATE beyond skill-based hazard controls for the work activity into the TWD.

**NOTE:** *It is not required to include a copy of the JHA Checklist in the work package until the package is closed and filed for retention.*

2. RETAIN the approved hazard analysis document(s).
  - a. For work packages, UPLOAD a copy into JCS for reference, AND RETAIN hard copy with the work package upon work completion.
  - b. For PM/S activities, RETAIN per PRC-PRO-MN-19304.
  - c. For technical procedures, UPLOAD the approved document into the Technical Basis Files in PPS for the respective procedure.
  - d. For JHA/AHAs, RETAIN per PRC-PRO-SH-40078.

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### 3.5 Changes to Hazard Analysis Documents

The JHA is a planning document to establish the beyond skill-based hazards and controls to be implemented within the initial TWD. Changes prior to approval of the JHA will be performed per Section 3.5.1. After the TWD has been approved, changes to the hazard and controls shall be performed as follows:

- Technical procedures (PRC-PRO-MS-589) – update JHA per Section 3.5.2
- PM/S activities (PRC-PRO-MN-19304) – update JHA per Section 3.5.2
- Work packages (PRC-PRO-WKM-12115) – update may be done directly in the work package via the work package change process or per Section 3.5.2

#### 3.5.1 Changes Prior to Complete Approval of the JHA

Actionee	Step	Action
JHA Coordinator	1.	NOTIFY those who have already signed the document of the changes <u>AND</u> PROVIDE them opportunity to make adjustments to their input to ensure they align with the changes.

**NOTE:** *Prior to printing out the JHA Checklist, changes should be made electronically as part of the normal review process.*

2. MAKE pen and ink changes to the original document, OR GENERATE a new form electronically AND RE-ROUTE for approval.
3. NOTIFY SMEs who have already approved the JHA AND OBTAIN their concurrence for the changes.
4. REVIEW the applicable TWD to determine if changes to the TWD are required per the governing procedure.

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## 3.5.2 Changes After Approval of the JHA

While it is not required to maintain the JHA after TWD approval (for documents created per PRC-PRO-WKM-12115), to avoid confusion, the JHA may be updated to identify or to help de-conflict changes in hazards and/or controls. This section is provided for guidance should it be desired to change the JHA.

<b>Actionee</b>	<b>Step</b>	<b>Action</b>
JHA Coordinator	1.	SELECT the method appropriate for the number and significance of the changes that are required and the ability for the change to be made in a legible manner. <ol style="list-style-type: none"> <li>a. UPDATE the JHA via pen and ink, <u>OR</u> PREPARE a new JHA to include the change to hazards and/or controls.</li> </ol>
RM/TA	2.	DETERMINE reviewers for the changes.
SME	3.	SIGNIFY concurrence with changes by affixing initials and date next to the original signature, <u>OR</u> USE a note system <u>AND</u> PRINT <u>AND</u> SIGN where there is ample space to write legibly.
	4.	ENSURE the respective TWD aligns with changes made to the JHA.
JHA Coordinator	5.	RETAIN changes in the same way as the original JHA.
RM/TA	6.	VERIFY the respective TWD aligns with changes made to the JHA. <ul style="list-style-type: none"> <li>• <u>IF</u> the documents do not align, <u>THEN</u> INITIATE a change per the respective TWD administrative process.</li> </ul>

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**4.0 FORMS***CHPRC Work Planning Roster/Comment Form, A-6005-916**CHPRC Job Hazard Analysis Checklist, A-6006-681**Work Location Hazards Identification, A-6006-300***5.0 RECORD IDENTIFICATION**

All records are generated, processed, and maintained in accordance with PRC-PRO-IRM-10588, *Records Management Processes*.

Records created during the performance of a work package shall be managed in accordance with PRC-PRO-WKM-12115, *Work Management*.

**Records Capture Table**

<b>Name of Record</b>	<b>Submittal Responsibility</b>	<b>Retention Responsibility</b>
<i>Work Package (includes CHPRC Job Hazard Analysis Checklist, A-6006-681, General Hazard Analysis Document, Craft Hazard Analysis Documents)</i>	Work Control	IRM Service Provider
General Hazard Analysis Document	JHA TA	Document will be maintained in a site database available to all HLAN users for printed copies. Original will be maintained in Work Control files.
Craft Hazard Analysis Documents	JHA TA	Document will be maintained in a site database available to all HLAN users for printed copies. Original will be maintained in Work Control files.

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**6.0 SOURCES****6.1 Requirements**

10 CFR 1021, *National Environmental Policy Act Implementing Procedures*  
10 CFR 830, *Nuclear Safety Management, Subpart A--Quality Assurance*  
10 CFR 851, *Worker Safety and Health Program*  
CRD O 232.2 (Supp), *Occurrence Reporting and Processing of Operations Information*  
CRD O 433.1B (Supp), *Maintenance Management Program for DOE Nuclear Facilities*  
CRD O 226.1B *Implementation of Department of Energy Oversight Policy*  
DOE O 414.1D, *Quality Assurance*  
PRC Clause 1.43 DEAR 970.5223-1- *Integration of Environment, Safety, and Health into Work Planning and Execution*  
U.S. Department of Energy Lessons Learned No. 2001-HQ-EH-2001-001, *Protecting Workers from Exothermic Chemical Reaction*, 03/22/01

**6.2 References**

PRC-CHRT-WKM-53060, *Hazard Review Board*  
PRC-PRO-IRM-10588, *Records Management Processes*  
PRC-PRO-MN-19304, *Periodic Maintenance Process*  
PRC-PRO-MS-589, *CH2M HILL Plateau Remediation Company Procedures*  
PRC-PRO-QA-19579, *OCRWM Records Management*  
PRC-PRO-RP-40029, *Required Radiological Surveillances*  
PRC-PRO-SH-40078, *Contractor Safety Processes*  
PRC-PRO-WKM-12115, *Work Management*  
PRC-STD-EN-53924, *Chemical Compatibility Evaluations*  
PRC-STD-TQ-40380, *Work Management Training Program Description*

**6.3 Basis Documents**

PRC-MP-MN-40443, *Nuclear Maintenance Management Program (NMMP) Description Document*  
PRC-PRO-RP-40109, *Radiological Work Planning*

**6.4 Commitments**

- CR-2017-1240, CA#30
- CR-2017-1242, CA#8
- CR-2017-1240, CA#13
- CR-2017-1242 CA#2
- CR-2017-1259 CA#1
- CR-2017-1260 CA#1
- CR-2019-0813, CA#9



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## Appendix A - Glossary

Term	Definition
<b>Hazard</b>	A physical, chemical, biological, or safety condition with a potential to cause illness, injury, or death to a person or damage to the environment, facilities, and/or equipment.
<b>Hazard Analysis Team</b>	The team identified by the RM/TA that should include the planner/procedure writer, representatives of the principle crafts involved in the field work (preference is for all craft jurisdictions to be represented), as well as the identified SMEs whose areas of expertise address the hazards expected for the activities represented in the scope statement.
<b>Hazard Controls</b>	Measures to mitigate hazards to workers, the public, or the environment, including physical, design, structural, and engineering features; safety structures, systems, and components; safety management programs; technical safety requirements; and other controls necessary to provide adequate protection from hazards. Hazard controls must be selected based on the following hierarchy:  (1) Elimination or substitution of the hazards where feasible and appropriate; (2) Engineering controls where feasible and appropriate; (3) Work practices and administrative controls that limit worker exposures; (4) Personal protective equipment.
<b>Job Hazard Analysis (JHA)</b>	An evaluation of all aspects of the task performance to include an analysis of the hazards associated with performing the task, and also an evaluation of hazards associated with the work area where the activity will be performed (e.g., confined space, radiological areas). Controls for the hazards are identified and incorporated into the work control documents (procedures/work instructions) as appropriate.
<b>JHA Coordinator</b>	The individual designated by the Project/Facility as having the responsibility for initiating and facilitating the JHA Checklist. This position is usually filled by the planner, procedure writer, or technical authority.
<b>Technical Work Document (TWD)</b>	A term used to generically identify formally approved documents that direct field work, such as technical procedures, work packages, or PM/S Activities.

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## Appendix B - Hazard Analysis Determination Criteria

Each row corresponds to a row on the *Job Hazards Analysis Checklist* (Site Form A-6006-681) and lists an activity and/or a hazard and the criteria that defines when that item is considered Beyond Skill-Based. Items that say "none" are considered Skill-Based, barring unusual circumstances.

	Activity/Hazard	Beyond Skill-Based Criteria
1	<b>Aerial Lifts - Falls from</b>	<ul style="list-style-type: none"> <li>Fall Protection Work Permit is required</li> </ul>
2	<b>Asbestos</b>	<ul style="list-style-type: none"> <li>Any disturbing or intrusive work on Presumed Asbestos Containing Material (PACM) or Asbestos Containing Material (ACM)</li> <li>Work within 75 feet of steam lines outside of maintained facilities with potential to disturb the PACM/ACM</li> </ul>
3	<b>Beryllium</b>	<ul style="list-style-type: none"> <li>Intrusive work within a Beryllium Controlled Area (BCA) or Beryllium Suspect Area (BSA)</li> <li>Entry into a Beryllium Regulated Area (BRA)</li> </ul>
4	<b>Biological Hazards</b> (e.g., animals, carcasses, insects, snakes, feces, mold)	<ul style="list-style-type: none"> <li>Potential for exposure as determined by PRC-PRO-SH-17916, <i>Industrial Hygiene Exposure Assessments</i></li> <li>Mold, mildew, etc., with a potential respiratory hazard</li> </ul>
5	<b>Blind Penetrations</b>	<ul style="list-style-type: none"> <li>Work requiring penetrations greater than 1 ½ inches</li> <li>Work where drawings, documentation and site inspection cannot confirm the absence of electrical circuits or conductors in the location of the penetration</li> <li>Work where the presence and location of electrical circuits or conductors cannot be accurately identified and completely de-energized</li> </ul>
6	<b>Chemical Use/Handling of Hazardous Material Chemicals; Dust, Toxic Fumes and Vapors</b>	<ul style="list-style-type: none"> <li>IHEA/screening identifies chemical potential exposure ≥50% of the Occupational Exposure Limit (OEL)</li> <li>Work introduces new chemicals that will mix with bulk chemicals or chemical accumulations already present in laboratories, processing or treatment facilities which requires an engineering chemical compatibility evaluation per PRC-STD-EN-53924, <i>Chemical Compatibility Evaluations</i></li> </ul>

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## Appendix B - (Cont)

	Activity/Hazard	Beyond Skill-Based Criteria
7	<b>Confined Space</b>	<ul style="list-style-type: none"> <li>Permit-Required Confined Space (includes downgrading to a Non-Permit Required Confined Space)</li> </ul>
8	<b>Ergonomics, Moving: (e.g., body position, vibration)</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
9	<b>Excavation Work</b>	<ul style="list-style-type: none"> <li>Excavation Work Permit is required</li> </ul>
10	<b>Falls – from Heights</b>	<ul style="list-style-type: none"> <li>Fall Protection Work Permit is required</li> </ul>
11	<b>Falling Objects from Overhead</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
12	<b>Fire Hazard: Weld, Burn, and Grind Fire Marshall Permits; Flammable, Explosive, Combustibles</b>	<ul style="list-style-type: none"> <li>Hot Work Permit or other Hanford Fire Marshall Permit is required to control flammables/explosives</li> <li>Hot work at a Hazard Category 2 or 3 Facility (i.e., Activities Requiring Technical Safety Requirement [TSR] Ignition Controls)</li> <li>Planned impairment on Documented Safety Analysis (DSA) -credited fire systems</li> <li>Use of explosives</li> <li>Modification to a means of Egress (e.g., blocking an exit with scaffolding)</li> </ul>
13	<b>Hand Tools/Portable Equipment Use</b>	<ul style="list-style-type: none"> <li>Modified Tool</li> <li>Modified Portable Equipment</li> </ul>
14	<b>Hazardous Energy Sources</b> (e.g., electrical, hydraulic, kinetic, mechanical, pneumatic, pressure, rotation, thermal, spring, steam)	<ul style="list-style-type: none"> <li>Work requiring an Energized Electrical Work Permit (EEWP)</li> <li>When exposure to non-electrical hazardous energy cannot be eliminated (e.g., LOTO, machine guards)</li> </ul>
15	<b>Hoisting, Rigging, Cranes and Forklifts</b>	<ul style="list-style-type: none"> <li>Critical or Special Lifts</li> </ul>
16	<b>Lead</b>	<ul style="list-style-type: none"> <li>IHEA/assessment or Lead Control Plan identifies lead exposure potential <math>\geq</math> Action Level</li> </ul>
17	<b>Noise/Noisy Environments</b>	<ul style="list-style-type: none"> <li>Activity not covered by existing postings</li> <li>Equipment will be brought into the work area that hasn't been evaluated for noise level (e.g., port-a-band, circular saw, portable generators)</li> </ul>

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## Appendix B - (Cont)

	Activity/Hazard	Beyond Skill-Based Criteria
18	<b>Overhead Utilities</b>	<ul style="list-style-type: none"> <li>Potential to be working within 20 feet of energized lines</li> <li>Within the specific Limited Approach Boundary (LAB)</li> </ul>
19	<b>Pressurized Gas Cylinders</b>	<ul style="list-style-type: none"> <li>None</li> </ul>
20	<b>Radiological Area Work</b>	<ul style="list-style-type: none"> <li>An ALARA Management Worksheet (AMW) is required per PRC-PRO-RP-40109, <i>Radiological Work Planning</i>.</li> </ul>
21	<b>Roof Work</b> <ul style="list-style-type: none"> <li>Repair or maintenance of a roof, or work where the roof is the work platform</li> </ul>	<ul style="list-style-type: none"> <li>Fall Protection Work Permit is required</li> <li>No current roof evaluation that allows access</li> </ul>
22	<b>Scaffold Erection, Dismantling, Modification</b>	<ul style="list-style-type: none"> <li>Greater than 10 feet without fall protection</li> <li>Fall Protection Work Permit is required</li> </ul>
23	<b>Scaffold Use</b>	<ul style="list-style-type: none"> <li>Fall Protection Work Permit is required</li> </ul>
24	<b>Sharp Objects, Cut or Puncture Hazard</b>	<ul style="list-style-type: none"> <li>Work with materials or tools with severe injection consequences</li> </ul>
25	<b>Temperature Extremes, Thermal Stress</b>	<ul style="list-style-type: none"> <li>Physiological monitoring is required</li> </ul>
26	<b>Vehicle, Heavy Equipment, Forklift Use, and Traffic</b>	<ul style="list-style-type: none"> <li>See other pertinent activity/hazards (e.g., hoisting and rigging, overhead lines, excavation)</li> </ul>
27	<b>Vehicle Use – Off Road, Tertiary Road Travel</b>	<ul style="list-style-type: none"> <li>None (management authorization is required to access tertiary roads)</li> </ul>