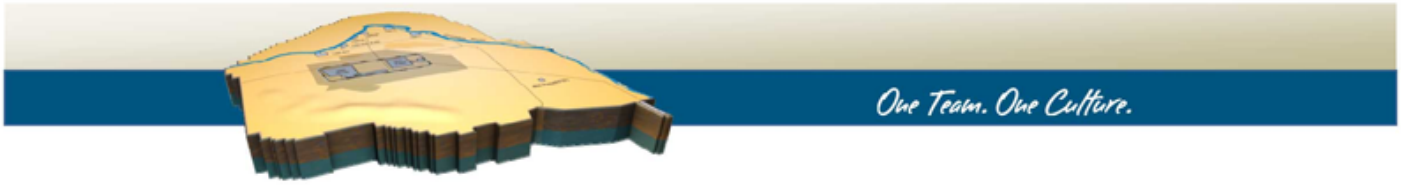

Administrative Procedure

PRC-PRO-WKM-079

Job Hazard Analysis

Revision 7, Change 1

Published: 04/19/2016
Effective: 04/19/2016

Program: Work Management
Topic: Work Management

Technical Authority : Robinson, Roby
Alternate Technical Authority : Gray, Sandra
Functional Manager: Ferguson, Randy

Use Type: Administrative

JHA: Administrative
Periodic Review Due Date: 01/29/2020
Rev. 7, Chg. 1
USQ Screen Number:

- 100 K Facility : **Categorical Exclusion:** GCX-7 (Minor Change)
  Screener: Williams, James
- Canister Storage Building/Interim Storage Area : **Categorical Exclusion:** GCX-7 (Minor Change)
  Screener: Covey, Lori
- Central Plateau Surveillance and Maintenance : **Categorical Exclusion:** GCX-7 (Minor Change)
  Screener: Olsen, Ashley
- Plutonium Finishing Plant : **Categorical Exclusion:** GCX-7 (Minor Change)
  Screener: Danna, Marc
- Solid Waste Operations Complex : **Categorical Exclusion:** GCX-7 (Minor Change)
  Screener: Olsen, Ashley
- Transportation : Excluded from USQ
  Exclusion Reason:
  N/A per PRC-PRO-NS-062, Rev. 2-2, Table B-2
- Waste Encapsulation Storage Facility : **Categorical Exclusion:** GCX-7 (Minor Change)
  Screener: Covey, Lori

CHANGE SUMMARY

Description of Change

Supports CARB CR-2015-1920 CAP, RC-01 relative to chemical mixing/compatibility evaluation.

Inserted criteria into Appendix B, Table 1 for clarification during the skill-based determination of work activities that may involve more than one chemical and review them for chemical interactions per CR-2015-1920 CAP.

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1.0 INTRODUCTION

1.1 Purpose

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

This procedure implements and integrates use of the following tools:

- CHPRC General Industrial Hazard Analysis (GHA)
- CHPRC Craft Specific Job Hazard Analysis (CHA)
- Site Form A-6006-681, C*HPRC Job Hazard Analysis Checklist,* (JHA Checklist)
- Web-based Automated Job Hazard Analysis (AJHA)

1.2 Scope

This Level 2 procedure applies to the analysis of task-specific hazards which may be encountered during the execution of CHPRC work activities.

Application to subcontractors will be as specified or excluded in the statement of work or approved safety plan.

1.3 Applicability

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

Emergency Response Procedures (ERPs) are exempted from having a hazard analysis performed per this procedure. 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.

1.4 Implementation

- This procedure is effective on 02/02/2015 for new work documents and those in the planning phase not yet submitted for review and approval.
- Work documents developed per PRC-PRO-WKM-12115 in the review and approval phase or further in the work management process may proceed as planned per earlier revisions. Changes to them will be performed in accordance with this revision.
- Work instructions developed per PRC-PRO-MN-19304 will be updated according to the periodic review schedule.
- Procedures developed per PRC-PRO-MS-589 will be updated according to the 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

The Project Technical Services Program is responsible for development, maintenance and assessment of the CHPRC Job Hazard Analysis program to include:

- Develop and maintain the Job Hazard Analysis procedures and training
- Assignment of the AJHA Program Administrator
- Responsible for JHA Checklist and AJHA program/tool content and functionality
- Assignment of the Job Hazard Analysis Technical Authority who serves as the program SME
- Coordination with Project/Facilities on input into the JHA Checklist and AJHA application
- Maintain web database to the GHA and CHA documents
- Co-chair the AJHA Users Group quarterly meetings

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, procedure writers, and technical authorities (TAs) who are designated by the facility they support to perform JHA/AJHA Coordinator responsibilities which includes initiating and facilitating the job hazard analysis process.

2.2.2 Responsible Manager (RM)

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

2.2.3 Technical Authority (TA)

An individual accountable and responsible for the implementation of this process for work technical procedures created per PRC-PRO-MS-589 and Preventive Maintenance and Surveillance (PM/S) Activities created per PRC-PRO-MN-19304.

2.2.4 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 job hazard analysis process to participate in the work site walk downs, roundtables, hazard identification, hazard analysis, and hazard control selection.

2.2.5 AJHA Facility Support Administrator (FSA)

An individual assigned by the facility/project as an administrator/point-of-contact for use of the web-based AJHA tool at the facility/project. The following responsibilities apply:

- Assist facility/project personnel in the use of the web-based AJHA tool
- Administer the facility/project AJHA personnel inventory/responsibilities, perform AJHA checkout/unlock functions, archive and un-archive AJHAs, add project titles, perform AJHA photo/image uploads, and other AJHA access and control functions

3.0 PROCESS

The following tools are available to assist in the job hazard analysis process:

GHA and CHA

Every CHPRC employee is expected to work safely and to maintain a safe work environment. The GHA and CHA documents identify the control measures for routine industrial hazards common to the core activities of the workers' assigned job position.

GHA – The scope of the GHA is limited to hazards that all CHPRC employees can reasonably be expected to recognize and know how to mitigate based on the fundamental knowledge and training requirements of his or her job assignment. All employees are trained to recognize these hazards and controls through the annual CHPRC General Employees Training (CGET).

CHA – The CHA lists, by craft discipline, the hazards each craft person may be exposed to while performing work within their positions defined by the Hanford Atomic Metal Trades Council (HAMTC) Contract. Craft members, by discipline, are trained and experienced to recognize and mitigate those hazards consistent within their discipline.

The GHA and CHA documents are published on the Hanford Local Area Network (HLAN) web site, (http://ajha.rl.gov/ajhaweb/secure/psl/lookup.cfm).

Skill-Based Work

Skill-based is a hazard level category in the CHPRC JHA process for work where employees can reasonably be expected to recognize and know how to mitigate hazards based on their fundamental knowledge and training. See Appendix B for the complete list of skill-based decision criteria. Work that does not meet skill-based criteria is called beyond skill-based.

JHA Checklist and AJHA

An activity level JHA should be prepared for each work activity determined to be beyond skill-based in accordance with Appendix B of this procedure. An activity-level hazard analysis using the JHA Checklist or AJHA is an analysis of associated hazards for a particular activity or task. The analysis assesses each aspect of the work task and addresses any hazards and conditions with the potential to result in an injury or environmental impact.

Work Location Hazards Identification

Although it is not part of CHPRCs hazard analysis process, Site Form A-6006-300, *Work Location Hazards Identification*, is available for CHPRC facilities to use as a tool for identifying and communicating known worksite hazards to assist in the planning process.

3.1 Skill-Based or Beyond Skill-Based Determination

Actionee	*Step*	*Action*

NOTE: *The work scope and work instructions should be defined to the level of detail that is practical to facilitate the identification of health and safety hazards and environmental impacts prior to starting the job hazard analysis process.*

RM/TA

1. REVIEW the work scope and work site.
2. DETERMINE if the activity is skill-based or beyond skill-based (i.e., requires a JHA Checklist or AJHA).
   - Appendix B, *Initial Hazard Analysis Determination Criteria*, identifies the skill-based work criteria
   - JHA Checklist or AJHA may be used for skill-based work when requested by the RM/TA
3. DOCUMENT the skill-based determination through the appropriate mechanism for the controlling work document.

NOTE: *The process of evaluation and determination that a work activity is Skill-Based determines whether a hazard analysis has been performed.*

RM/TA

4. IF the work scope is determined to be beyond skill-based per criteria in Appendix B,
   THEN GO TO Section 3.2 for Beyond Skill-Based Hazard Analysis.

Planner/TA

5. INCORPORATE hazard controls for skill-based work per the guidance in Appendix C, *Guidelines for Incorporating Hazard Controls into Work Instructions and Procedures*.

3.2 Beyond Skill-Based Job Hazard Analysis

Actionee	*Step*	*Action*
JHA/AJHA Coordinator	1.	DEVELOP draft hazard analysis using the JHA Checklist or AJHA tool. • IDENTIFY site and task specific hazards, exposures, or constraints • IDENTIFY interfacing hazards and co-located work impacts based on known and expected site conditions • CONSIDER any potential hazards for changing conditions • REVIEW applicable work history (e.g., work documents, AJHAs, and lessons learned)
Hazard Analysis Team	2.	WALK-DOWN the job site AND IDENTIFY the potential hazards relating to the work activities and work site conditions.

Actionee	Step	Action
JHA/AJHA Coordinator	3.	CAPTURE the identified hazards in either: a. JHA Checklist or b. AJHA Tool
	4.	REQUEST SMEs to perform any initial analysis identified via the JHA Checklist or AJHA Tool.
	5.	USE the hierarchy of controls for mitigating identified hazards: a. Elimination or substitution of hazards where feasible and appropriate b. Use of engineered controls c. Work practices and administrative controls d. Use of PPE
	6.	REVIEW the hazard analysis to ensure additional hazards are not created due to selected controls and conflicts do not exist between controls (e.g., personal protective equipment [PPE] requirements for radiological do not conflict with PPE requirements for Industrial Hygiene hazards).

NOTE:
- *Changes to the JHA Checklist may be performed by marking up the original JHA Checklist with the required change, or preparing a new JHA Checklist form describing the additional hazards and controls. The Method selected is determined by the number and significance of the changes that are required and the ability for the change to be made in a legible manner.*
- *Changes to the AJHA may be performed by marking up the original AJHA with the required change, or preparing a new AJHA describing the additional hazards and controls.*

Hazard Analysis Team	7.	DOCUMENT the results of the hazard identification, hazard analysis, selection of controls, and method of control implementation on the JHA Checklist or with the AJHA Tool.
	8.	RECORD participation in the hazard analysis on the JHA Checklist signature sheet, in the involvement section of the AJHA tool, or on the *CHPRC Work Planning Roster/Comment Form* (Site Form A-6005-916).
SME	9.	PERFORM any analysis necessary to complete development of permits, plans or hazard controls.
	10.	ENSURE additional hazards are not created due to selected controls and conflicts do not exist among the final control set.
	11.	REVIEW AND APPROVE the hazard analysis on the JHA Checklist or AJHA.

Actionee	*Step*	*Action*
RM /TA	12.	REVIEW AND APPROVE the hazard analysis on the JHA Checklist or AJHA ensuring completeness, technical accuracy, and controls identified for activities are appropriate.
Planner/TA	13.	RETAIN the approved hazard analysis in Job Control System (JCS) for work packages or history file.

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 required to be managed in accordance with PRC-PRO-IRM-10588, *Records Management Processes*.

Records created during the performance of OCRWM activities shall be managed and additionally submitted to the OCRWM Records Coordinator, in accordance with PRC-PRO-QA-19579, *OCRWM Records Management*.

Records Capture Table

Name of Record	Submittal Responsibility	Retention Responsibility	OCRWM Retention Schedule (If OCRWM Related)
CHPRC Job Hazard Analysis Checklist, A-6006-681, or AJHA Report (Hard Copy)	RM/TA	Record copy retained with the work originating document and is appended to the completed work package at the time of closure review. If associated with facility-approved procedures performed without a work package, facility retention until no longer needed, then retire to Records Holding Area (RHA) in accordance with Records Inventory and Disposition Schedule (RIDS).	Lifetime
General Industrial 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 until no longer needed, then retire to Record Holding according to RIDS.	Lifetime
Craft Position Specific Hazards 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 until no longer needed, then retire to Record Holding according to RIDS.	Lifetime
AJHA Feedback Database – Summary report, Post-job Reviews and ALARA reviews	AJHA Administration	Record copy retained with the work originating document. Original documentation retained in electronic database by AJHA Administration staff.	Lifetime

Name of Record	Submittal Responsibility	Retention Responsibility	OCRWM Retention Schedule (If OCRWM Related)
AJHA Radiological Work Permit (RWP) Database	AJHA Administration	Record copy retained with the work originating document. Original documentation retained in electronic database by AJHA Administration staff.	Lifetime

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*
DOE/RL-96-68 Rev 3, *Hanford Analytical Services Quality Assurance Requirements Document*
U.S. Department of Energy Lessons Learned No. 2001-HQ-EH-2001-001, *Protecting Workers from Exothermic Chemical Reaction*, 03/22/01
PRC-MP-MN-40443, *Nuclear Maintenance Management Program (NMMP) Description Document*

6.2 References

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-40109, *Radiological Work Planning*
PRC-PRO-SH-40078*, Contractor Safety Processes*
PRC-STD-TQ-40380, *Work Management Training Program Description*
PRC-PRO-WKM-12115, *Work Management*

Appendix A - Glossary of Terms

Term	Definition
Active, Completed, and Approved Analysis	A hazard analysis conducted and documented by the appropriate Subject Matter Expert (SME) and that consists of hazards and controls implemented via various approved methods, such as postings, active Radiological Work Permit (RWP), Beryllium Work Permit (BWP), Occupational Safety and Industrial Hygiene (OS&IH) analysis, Lockout/Tagout (LOTO), etc.
Job Hazard Analysis Coordinator	The individual designated by the Project/Facility as having the responsibility for completing the JHA Checklist or AJHA and related Reports. This position is usually filled by the planner, procedure writer or TA.
Craft Specific Hazard Analysis (CHA)	An established document that includes the hazards analysis for general work activities that a journeyman craftsman performs routinely with limited work instructions. The controls listed in this hazards analysis are those that the craftsman with journeyman skills is expected to utilize in the performance of their daily work. As such, the controls do not need to be documented in work instructions. This hazard analysis is to be used in conjunction with PRC-PRO-WKM-079, *Job Hazard Analysis*, and Appendix B, *Initial Hazard Analysis Determination Criteria*. After reviewing the work scope, location, the hazards involved, determine if the CHA adequately addresses the hazards identified in the work activity. If the work activity is beyond skill-based, further analysis is required through use of the AJHA application.
General Industrial Hazard Analysis (GHA)	An established document that includes the hazard analysis that applies to all personnel employed by CHPRC. This hazard analysis applies to those hazards that are not normally covered in work instructions, or technical procedures. Specific to those hazards having caused or been a part of the cause of injuries received by CHPRC employees during the past months on the Hanford Site. The GHA reflects those hazards and controls all employees are trained to address through the CHPRC General Employees Training (CGET). This hazard analysis is used in conjunction with the CHA document, and does not cover the environment in which these activities may be performed.
Hazard	A work place hazard means a physical, chemical, biological, or safety hazard with a potential to cause illness, injury, or death to a person or damage to the environment (e.g., environmental impact), facilities, and equipment.
Hazard Analysis Team	The team that includes some representatives of the Planning Team and additional SMEs as identified by the RM/TA.
Hazard Controls	Measures to eliminate, limit, or mitigate hazards to workers, the public, or the environment, including (1) physical, design, structural, and engineering features; (2) safety structures, systems, and components; (3) safety management programs; (4) technical safety requirements; and (5) other controls necessary to provide adequate protection from hazards.

Appendix A - (Cont.)

Term	Definition
Routine	The proposed activity to be performed is a repetitive activity/task where the performers have demonstrated proficiency.
Standing Automated Job Hazard Analysis (AJHA)	The method used to document job hazard analysis for a defined work scope, which is activity-based, considered routine in nature, and is performed on a regular or repetitive basis under stable conditions. Standing AJHA's are active over a specified period of time. A Standing AJHA may be applied to work performed in more than one location when the activities/tasks in the work environment are consistent (e.g., hazards and controls do not vary), with conditions expected to remain constant. A Standing AJHA may be revised, or a new one developed, when the activities/tasks change.

Appendix B - Initial Hazard Analysis Determination Criteria

Skill-Based: Work that is within the hazards and controls boundaries identified in Table 1 (see below) is defined as skill-based work. Table 1 is created within the control measures of the CHAs and GHA and merges the two hazard analysis together in order to have a cohesive and consistent approach. Based on evaluation of employee experience, training, and knowledge, the GHA and CHAs identify routine work place hazards where controls are skill based and can be implemented by the individuals performing the work. Employees can reasonably be expected to recognize and know how to mitigate hazards based on their fundamental knowledge and training.

The hazard and controls associated with the proposed activity which consists of hazards and controls implemented via various approved methods, such as postings, active RWP, analysis approved by Occupational Safety and Industrial Hygiene, lockout/tagout (LOTO), etc. are considered skill-based if identified in Table 1.

JHA or AJHA: An evaluation of all aspects of the task performance. This includes 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 (confined space, radiological areas, beryllium controlled areas, etc.). Controls for the hazards are identified and incorporated into the work control documents as appropriate (procedures/work instructions). Because all the hazards associated with the activity are incorporated into the procedure or implemented through appropriate permits, the JHA checklist or AJHA is not required in the field.

An activity/hazard or control that is not identified in Table 1 is considered beyond skill-based.

Table 1. Skill-Based Hazards/Activities

Some rows state criteria when the hazard/activity is skill-based or beyond skill-based, indicated by a dotted line separating the two conditions.

Activity/Hazard/Decision Criteria	Skill-Based Controls
Aerial Lifts/Elevating Work Platforms • No Fall protection Work Permit	• Establish Communication with equipment operator Spotters • Wear Personal Fall Restraint
• A Fall Protection Work Permit is required	Beyond Skill-Based
Airborne Dust/Particulates (Non-chemical hazard. Beryllium, Asbestos and Lead listed below)	Beyond Skill-Based
Asbestos	Beyond Skill-Based

Appendix B - (Cont.)

Activity/Hazard/Decision Criteria	Skill-Based Controls
Beryllium • Beryllium Controlled Facilities • Non-intrusive work within a BCA	• Follow approved work instructions • BWP
• Intrusive work within a BCA • Entry into a BRA	Beyond Skill Based
Blind Penetration • Work where drawings, documentation and site inspection confirm no electrical circuits or conductors exist in the location of the penetration • Work where the presence and location of electrical circuits or conductors can be accurately identified and completely de-energized • Work requiring penetrations up to 1 ½ inches into concrete or masonry surfaces	• Do not exceed wall material thickness • Circuits or conductors shall be de-energized to the maximum extent possible and placed in an electrically safe work condition • Workers shall use appropriate voltage rated gloves with protective outer leather gloves and nonconductive safety glasses with side shields
• Work requiring penetrations deeper than 1 ½ inches into or through wall, floors, or other surfaces that may contain concealed electrical systems	Beyond Skill-Based
Chemicals • 0 or 1 NFPA Hazard Ratings, no special notices	• MSDS/SDS Review • Wear PPE in accordance with MSDS/SDS • Proper handling and storage of chemicals and products
• 2, 3, or 4 NFPA Hazard Ratings, any special notice • **Work introduces new chemicals that will mix with bulk chemicals or chemical accumulations already present in laboratories, processing or treatment facilities.**	Beyond Skill-Based

Appendix B - (Cont.)

Activity/Hazard/Decision Criteria	Skill-Based Controls
Confined Space • Non-Permit Required Confined Space	• No hazards will be introduced to the space • The configuration of the space will not be changed by the activity. • Space configuration is the same as stated on Hanford Confined Space Hazard Identification form.
• Permit-Required Confined Space	Beyond Skill-Based
Elevating Work Platforms • No Fall protection Work Permit	• Establish Communication with equipment operator Spotters • Wear Personal Fall Restraint
• A Fall Protection Work Permit is required	Beyond Skill-Based
Excavation Work • No Excavation Work Permit	• Install barricades • Warning signs/postings • Perform ground scan
• If an Excavation Work Permit is required	Beyond Skill Based
Fire	• Control the amount of combustibles • Maintain a minimum of three (3) feet between combustibles and a heat/ignition source • Use metal or fiberglass material instead of wood • Do not store combustibles under desk or tables
Fire Hazard, Weld, Burn, and Grind • No Hotwork Permit	• Wear PPE in accordance with manufacturers requirements and MSDS/SDS • Remove flammable/combustible materials
• If a Hotwork Permit is Required	Beyond Skill-Based

Appendix B - (Cont.)

Activity/Hazard/Decision Criteria	Skill-Based Controls
Flammable/ Explosive Hazards (i.e., Activities Requiring TSR Ignition Controls)	Beyond Skill Based
Hand Tools and Portable Equipment Use (Unmodified Tool or Equipment)	• Follow manufacturer's instructions
(Modified Tool or Equipment)	Beyond Skill-Based
Hazardous Energy (Including Lockout/Tagout and Electrical Safety)	• Complete *Hanford Site Electrical Hazard Evaluation* (Site Form A-6005-738, includes Limited Approach Boundary Controls, Arc Flash Boundary Controls) • Cord and Plug under exclusive control • Complete 8-Point Criteria checklist • Implement LOTO • Perform user test prior to using GFCI • Use of power strips - do not daisy chain with electrical power cords • Install Barrier/Shielding • Setup Barricades
• EEWP	Beyond Skill-Based
High Noise • Covered by facility postings	• Hearing protection as directed by facility postings
• Special analysis is required, not covered by existing postings	Beyond Skill-Based

Appendix B - (Cont.)

Activity/Hazard/Decision Criteria	Skill-Based Controls
Hoisting, Rigging, and Cranes • Normal lifts	• Perform Normal lift • Signalman assigned • Use Spotter • Fall zone and essential personnel identified • Require Protective footwear • Perform Lifting equipment inspection • Evaluate ground conditions, verify sufficiently level and firm • Ensure Area around crane barricaded (swing radius hazards) • Wear Hard hat • Tag line use
• Critical or Special Lifts	Beyond Skill-Based
Insects, Animals, and Snakes	• Shake out clothing and shoes or boots • Do a thorough inspection of clothing or PPE prior to its use • Avoid bright flowery clothing • Inspect work areas for indication of hives, webs or nests • Do not wear perfumes or colognes • Avoid use of perfumed soaps, deodorants, shampoos, hairspray, or gels • Wear long sleeves • Be able to see where you are reaching into • Avoid slapping or swatting at bees or wasps

Appendix B - (Cont.)

Activity/Hazard/Decision Criteria	Skill-Based Controls
Ladders • Less than 4 feet working General Industry • Less than 6 feet working Construction industry • Less than 24 feet access	• Complete the computer based ladder safety training course • Properly inspect ladders before use to ensure they are in good condition • Verify ladders have a current inspection sticker/tag • Always climb facing the ladder • Always secure ladders from slipping • Center your body between the rails • Use both hands to properly grip the ladder and maintain a firm grip • Maintain 3-point contact of hands and feet at all times when ascending or descending • To keep both hands free when climbing, transport materials on tagline, hoist or with a tool belt • Ascend and descend deliberately and cautiously • Avoid pushing, pulling and over reaching while on ladder • Do not stand above the 2nd step from the top of a step ladder or the 4th rung from the top of an extension ladder • Wear slip resistant footwear • Do not use metal ladders when performing electrical work • Be sure all ladder feet are on firm, level ground • Properly set up an extension ladder at a 4-to-1 working angle • Do not exceed the duty rating of a ladder
• Fall Protection Work Permit is required	Beyond Skill-Based
Lead	Beyond Skill-Based

Appendix B - (Cont.)

Activity/Hazard/Decision Criteria	Skill-Based Controls
Lifting, Ergonomic or Body Position	• Except as noted on individual EJTAs, use more than one person if lifting greater than 55 lbs, greater than your capability, or the load is awkward • Require 2 - person lift • Use Mechanical lift stool/adjust to work height handling cart/dolly • Use of powered tools • Watch Hand/body position • Use your legs to lift, not your back • Use your feet to turn, not your waist • Keep weight close to the body • Avoid awkward positions • Use impact gloves for repetitive vibration activities • Use hand carts where available and it makes sense • Use approved lifting devices • Take frequent breaks when performing repetitive tasks • Use knee pads or mats when kneeling • Think through how you are going to lift • Avoiding leaning against a solid object or sharp edges • Avoid lifting until you have warmed up and stretched
Moving/Falling Objects from Height	• Tether small objects • Use rope, canvas bag • Cover openings (rubber matting, plywood, etc.) • Wear Hard hat • Tie off tools/materials • Install Barricades
Overhead Utilities (Potential to be within 20 feet of energized lines)	Beyond Skill Based
Pressurized Gas Cylinders	• Ensure Caps installed when not in use • Cylinders Properly secured • Use Suitable lifting moving device

Appendix B - (Cont.)

Activity/Hazard/Decision Criteria	Skill-Based Controls
Radiological • Low hazard radiological or low hazard with specific controls	• Follow approved work instructions • RWP
• Medium or high radiological hazard	Beyond Skill Based
Roof Work	Beyond Skill Based
Rotating/Moving Equipment or Pinch Points	• Machine guards in place • Do not wear loose clothing • Watch Hand/body position • Remove jewelry • Complete 8-Point Criteria checklist • Implement LOTO
Scaffolding • No Fall Protection Work Permit	• Review Scaffold Plan Checklist- User (Site Form A-6005-756) • Verify current scaffold inspection tag • Verify current scaffold status tag
• Fall Protection Work Permit is required	Beyond Skill-Based
Sharp Objects, Cut or Puncture Hazard	• Use proper tools for the task at hand • Use gloves suited for the task • Never try cutting something by pulling the blade towards you • While handling or near sharp objects, keep the location of all body parts in mind • Read and follow manufacturer safety recommendation for portable tools and sharp equipment

Appendix B - (Cont.)

Activity/Hazard/Decision Criteria	Skill-Based Controls
Slip or Trip Hazard	• Avoid walking in areas of ice or snow • Use non-skid shoe covers • Use shoes appropriate for the weather and conditions • Avoid walking on painted surfaces • Use ice melt or salt on icy surfaces • If indoors, ensure that appropriate sign or postings are in place around wet floors. Pay attention to signs and postings • Pay extra attention when changing positions (such as kneeling, sitting down, or standing up) • Use of handrails • Inspect the travel path or work area for potential tripping hazards • Remove tripping hazards whenever possible • Highlight change in work place elevations • Think through how you are going to move the object • Use your core muscles as much as practical • Maintain good footing and good gripping to prevent unintended shifts or slips
Thermal Stress (Heat/Cold)	• Perform Personal monitoring • Hydrate • Understand thermal stress factors
Vehicle, Heavy Equipment, Forklift Use, and Traffic	• Install Traffic barricades, Cones, Signs • Use Spotters • Establish Communication with equipment operator • Inspect surface condition • Wear Traffic vest

Appendix C - Guidelines for Incorporating Hazard Controls into Work Instructions and Procedures

Skill-Based Controls:

Skill-based hazards and controls that are commonly encountered by the workers are not required to be included in the work instructions, but can be included at the request of the Planning Team. Skill-based hazards and controls are known to be basic to the craft by virtue of their training. The workers are expected to be able to recognize and correctly control skill-based hazards without reminders in the work instructions.

Beyond Skill-Based Controls:

JHA

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

- Precaution/Limitation/Prerequisite – is selected if the control must be placed and verified as complete prior to the start of work, or applies to the entire scope of the work activity.
- Work Document/Instruction –is provided through incorporating specific steps and step sequencing within a work document.
- Permit/Plan - is selected when controls, requirements, or actions are specified in a permit or plan

AJHA

Controls for hazards defined in the AJHA as beyond skill-based shall be included in the work instructions. The AJHA report provides binning of the hazard controls to identify the beyond skill-based controls. These controls must be incorporated into the work instructions in such a way that serves to prevent or mitigate the hazard. Hazard controls need to be clearly defined and communicated so that they can be understood and implemented correctly. Beyond skill-based controls may only be excluded from the work instructions if a justification and concurrence of the Hazard Analysis Team with agreement of the Program Owner Representative have been documented in the General Details section for the specific control within the AJHA tool.