FFPO Procedure Blue Sheet Form

A. Procedure Title (list manual, procedure series, or specific procedure #)

SPR Accident Prevention Manual rev.11
Section 27 Job Hazard Analysis

B. Procedure Name/series type (i.e., operations, maintenance, etc.) ____E S & H____

C. Check (✓) one of the following:

1. __√__ Procedure(s) accepted "as is" with terminology replaced as denoted in the Site Procedures Approved Terminology Replacement List for the FFPO SPR M&O contract.

2. ___ In addition to the changes in approved terminology for the FFPO SPR M&O contract, improvements to the procedure are warranted:

____Category 1 Finding (Resolution prior to contract start)

____Category 2 Finding (Resolution within 90 days of contract start)

____Category 3 Finding (Resolution to the Issues Management program)

D. Comments/Notes:

E. Forward a copy of this form to the FFPO Director, Business Management for revision tracking.

Signed 02/28/14

FFPO Reviewer Signature Date

Steve Mahan

FFPO Reviewer Print Name

Site Procedures Approved Terminology Replacement List

Approved Terminology Replacements	
Terminology to be Replaced	**Substituted Verbiage**
AGSC	M&O Contractor or MOC
Boeing	M&O Contractor or MOC
Construction Management Services or CMS contractor	M&O Contractor or MOC
DynMcDermott or DM or Company	M&O Contractor or MOC
DM Contract No.	M&O Contract
Organizational Changes	
William Gibson or "Hoot"	DOE Project Manager or DOE PM
Robert (Bob) McGough or DM Project Manager or CEO	MOC Project Manager or MOC PM
Randy Sutton (Acting) or DM General Counsel	MOC General Counsel or MOC GC
Scott Landry or DM APM, O&M and COO	MOC APM, O&M
APM, Cavern Integrity	Senior Director, Cavern Integrity
Colleen Yates or DM APM, Business Operations and CFO	MOC APM, Business Operations and CFO
APM, Security and Emergency Preparedness or Director, Security and Emergency Preparedness Division	Senior Director, Security & Emergency Preparedness
Henry Schmidt, Jordan Jones, or Duane Johnson	Senior Director, Security & Emergency Preparedness
Leslie Williams or APM, Data Systems or Data Systems Director	Senior Director, Data Systems
William Bozzo or DM APM, ES&H	MOC APM, ES&H
Walt Newcomb or DM Director, Energy & Sustainability	Director, Environmental
J.P. Martinez or DM APM, Engineering	MOC APM, Engineering

ACRONYMS

AGSC ASRC Gulf States Constructors
APM Assistant Project Manager
ASRC Arctic Slope Regional Corporation
CAS Contractor Assurance System
CFO Chief Financial Officer
COO Chief Operating Officer
ES&H Environment, Safety, and Health
GC General Counsel
M&O Management and Operating
MOC Management and Operating Contractor
O&M Operations and Maintenance
PM Project Manager

27. JOB HAZARD ANALYSIS

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27.1. INTRODUCTION

a. The goal of job work planning and the process of preparing the Job Hazard Analysis (JHA) is to initiate thought about the hazards associated with each job activity that makes up all of the work and how each job activity can be performed safely. Careful planning of each job assures that all work is performed efficiently and safely. Work planning ensures the scope of the work is understood, appropriate materials are available, all hazards have been identified, mitigating efforts established, and all affected employees understand what is expected of them. A JHA is a critical part of work planning.

b. This process applies to all Strategic Petroleum Reserve (SPR) personnel including temporary and/or subcontract employees.

> **NOTE:**
> The Security contractor may use the following forms in lieu of the Pre-Job Briefing and Worker Qualification Form (PJBF) and JHA Form as long as all of the required information is documented:
> - QP-ESH-11,
> - Guard Mount briefing form,
> - Safety Risk Evaluation (with comprehensive safety briefing), and
> - Non-routine tasks Risk Assessment Form.

c. All work activities shall be subject to work planning to determine the need for a job hazard analysis.
   1. Depending on the complexity of each job and the hazards involved, the JHA process may be a verbal discussion, or it may be more formal with a written JHA and pre-job briefing. If a verbal JHA is done, the content should be summarized on the PJBF. See the following procedure for more details on performing job hazard analyses.

2. Employees and supervisors are to use the JHA Flow Chart (figure 27.1.) and professional judgment in determining the need for a written JHA.
3. The advice of the Site Safety Specialist and/or Environmental, Safety & Health (ES&H) Manager should be sought if assistance is needed.

27.2. GENERAL

27.2.1. Core Competencies

a. Commonly performed tasks that could be expected to be performed routinely in everyday life and those tasks that are identified as “core competencies” in the Technical Job Qualifications Master Qualifications Catalog, or job description, may not require JHAs.
b. Those who perform routine, redundant, or uncomplicated tasks over a period of time are considered competent to perform those tasks without conducting a written hazard analysis.
   1. As an example, this would apply to personnel such as electricians, plumbers, machine operators, etc. whose competency has been identified by the issuance of such license and are conducting routine tasks within their skill level.
   2. Examples are driving vehicles, office work, use of hand or small power tools, non-permitted weekly Preventive Maintenance (PMs), and operational rounds.

27.2.2. Vendors/Subcontractors

a. Vendors or subcontractors who are entering the site to perform a routine service such as delivering packages, filling vending machines, servicing copy machines, etc. will be accepted without the need for a JHA.
   1. It is expected that these personnel are working within their core competency and fully understand any hazard associated with the work they are performing.
b. For subcontractors, the requirements of this process will be made part of the subcontract for the task or service to be performed.
c. Should anyone observe activities that appear unsafe, work should be stopped or paused until actions clarified or concerns are mitigated.

27.3. WORK PLAN PROCESS

27.3.1. Introduction

a. The work plan process consists of seven elements:
   1. Operating Experience/Lessons Learned Portal review
   2. Job site walk down
   3. JHA
   4. Pre-job briefing
   5. Performance of the work
   6. Post-job review
   7. JHA record retention
b. These elements are explained below.

27.3.2. Operating Experience/Lessons Learned Portal

a. Operating Experience procedure AAA7003.5 covers use of the Operating Experience/Lessons Learned Process and how this tool is available to all SPR personnel, if needed, during the development of JHAs.
b. All SPR personnel receive email notifications when a lesson learned is entered into the database and this information is searchable by all personnel.

27.3.3. Job Site Walk Down

a. In those instances where the job site can be safely accessed, an inspection of the job site shall be conducted.
b. This inspection shall be conducted prior to developing the JHA in order to assure all job site hazards and work control issues are identified and addressed in the JHA.

27.3.4. Job Hazard Analysis Process

NOTE
This section may require referencing of the Job Hazard Analysis Process Part 1 and 2 and associated charts illustrated in Figure 27-1 and 27-2 of this section.

a. The supervisor or designee and affected employees develop the JHA if required per the Job Hazard Analysis Process Part 1 (illustrated in Figure 27-1).
   1. ES&H professionals are available at all sites to assist in the development of a JHA. The Job Hazard Analysis Form, OSF 12-0001 also contains information to help complete a JHA.
   2. The responsible supervisor or designee and at least one affected employee will sign the JHA form, verifying that it adequately identifies all hazards and their respective mitigating actions.
   3. You are required to write a JHA if:
      a) The job requires heavy equipment operation; the issuance of a safe work permit (SWP) for safe clearance, excavation or confined space; or the issuance of a Hot Work Permit (HWP) for hot work.
      b) If a task requires issuance of a work authorization permit and has two or more low-risk or one high-risk hazard.
      c) The job involves two or more of the low-risk general hazards or one high-risk hazard.
      d) The job is outside the normal duties and responsibilities of personnel assigned to perform the task and involves at least one low risk hazard.
      e) The job involves complex activities of more than one day duration and at least one low risk hazard. Use the Job Hazard Analysis Process Part 2 (Figure 27-2) as a reference to help as a guide in determining the risk to determine the requirement for a JHA.
      f) The job is complicated and would be done more safely using a written Work Plan/Job Hazard Analysis, and then a JHA should be completed.

NOTE
A written JHA is not required if the work activity is performed under a standard operating procedure which identifies all associated hazards, and the respective mitigation actions for each. In all cases, job planning and a pre-job briefing are required.

4. The preparation of the written JHA will include or involve the following aspects:
   a) Detailed scope of work, including how the person/team intends to complete the work;
   b) Walk down or inspection of the work area and equipment while planning the work;
   c) Identification of materials to be used; Identification of hazards;
   d) Identification of work requirements, controls, procedures, instructions and personal protective equipment necessary to perform the work safely (including permits); and
   e) Involvement of the workers in the preparation of the work plan.
5. The level of detail in the JHA should be relative to the complexity of the work and the hazards involved with the activity. The tailored JHA becomes the "Safety Plan of Action."
6. The supervisor or designee will review the JHA for completeness and thoroughness and determine whether the hazards for the work activity have been adequately identified and controlled.
   a) Vendor warnings shall be included in or attached to the written job hazard analysis.
   b) The supervisor will then approve the JHA.
7. "Generic" JHAs are those that would be routinely used for a specific activity and may be kept for use as a template.
   a) They shall be reviewed by the employees, updated and approved prior to each specific activity to ensure that all hazards of the work and the job site are addressed.
   b) In all cases, a pre-job safety briefing is required.
8. Emergency repair activities may be required during off -shift hours.
   a) If a JHA needs to be written, this can be done in the field by the on duty operations supervisor and the employee.
   b) The on duty operations supervisor and the affected employee will approve and sign the JHA.
   c) In all cases, a pre-job safety briefing is required.
   d) Under no circumstances, shall an emergency serve as a reason for ignoring established safe work practices.

27.3.5. Pre-Job Briefing

a. The supervisor or designee and employees performing the job shall discuss the work plan to ensure everyone is aware of how the job will proceed and what the Safety Plan of Action entails .
b. The pre-job briefing shall consist of the following:
   1. Summarizing the critical steps and materials: This includes steps where the success depends solely on the individual work, and that serious injury or significant loss of property could result from not following the prescribed safe work procedures.
   2. Anticipating what can go wrong or where errors can occur: This includes distractions, confusing procedures, inexperience and assumptions. Examining what errors have occurred with the activity in the past may be helpful.
   3. Foreseeing consequences: What is the worst that could happen? Work plans should incorporate defenses to prevent the incident.

4. How has the task gone in the past? Work plans should incorporate defenses to prevent a repeat incident. Review operating experience/Lessons Learned (if available).
5. Review of Equipment: Review of Personal Protective Equipment (PPE) necessary for the job, engineering controls, and equipment controls.

c. Review of the written JHA will be documented by the supervisor signing the PJBF (OSF12-0002). Only then can the supervisor allow the work to begin.
d. The second section of the PJBF is used to identify personnel not qualified to perform the task but are working as a helper or in training.

27.3.6. Performance of Work

a. The work plan/hazard analysis and the PJBF shall be posted in the work area with the SWP (if applicable) or shall be readily available to those performing the work if a safe work permit is not required. A PJBF is required for each day. A new work plan/hazard analysis only has to be submitted if the task has changed. An update to the JHA can be pen and ink changes if the job scope or conditions change. A new JHA form would not be required.
b. The work activity must be completed in accordance with the JHA.
c. Work activity shall cease immediately if:
   1. There is a change in the work scope, work conditions change, new hazards are identified, or the controls prove inadequate or ineffective.
   2. If work activity is ceased for any of these reasons, the JHA shall be reviewed by the employees and supervisor and revised as necessary.
   3. JHA changes shall be made by placing a single line through the text to be modified and entering the corrected text.
   4. Initials and the date shall be entered by a supervisor or designee and an affected employee.

27.3.7. Post-Job Review

a. After the job has been completed, the JHA must be retained in accordance with procedure below and may also be retained for reference or training purposes.
b. If retained, it should be updated to include improvements that were identified while performing the work.
   1. This will help assure better planning and a safer work experience the next time the job is performed.
   2. Additionally, any lessons learned during the job or activity will be reviewed and entered into the Lessons Learned database on the Operating Experience Portal.

27.3.8. JHA Record Retention

a. The JHA and PJBF will be filed with the SWP, if a SWP is not required the JHA and PJBF will be filed with the documentation that authorizes the work such as:
   1. Work order
   2. MRC
   3. Contract
   4. Operations Requirement Card (ORC)
b. These documents will be maintained according to the Records Inventory and Disposition Schedule (RIDS) that is applicable.
c. The RIDS for the JHA will assume the RIDS schedule for the document that it is filed with.

d. The supervisor may keep a copy of the JHA for training employees if he/she determines that it provides valuable information which may be used by affected employees.

27.4. TABLES: JOB HAZARD ANALYSIS

TABLE 27.1. JOB HAZARD ANALYSIS RESPONSIBILITIES	
Position or Department	**Responsibility**
Supervisor (or designee)	a. Ensuring JHAs are developed as required and reviewed by the employees before work begins. b. Ensuring affected employees' review applicable JHAs (written or verbal), and the content is documented on the PJBF seeking advice from Site Safety Representative or ES&H Manager as appropriate. c. Approving written JHAs completed by employees in their group. d. Conducting a pre-job walk down to analyze the hazards and determine if a JHA is required. e. Conducting a pre-job briefing with employees before work begins. f. Ensuring employees are trained in the process of developing a JHA. g. Ensuring employees are trained/qualified to perform the task and safely use tools/equipment in the completion of the job. h. Ensuring worker qualification is documented on the PJBF. i. Assuring the work is performed in accordance with the job hazard analysis.
ES&H Manager, Site Safety Specialists and Representatives	a. Providing technical expertise in job planning and preparing written JHAs upon request. b. Ensure appropriate JHA requirements are being met during field inspection of work locations and SWPs. c. Assist with preparation of Lessons Learned as needed. d. Review new Lessons Learned input by site personnel for validity.
Employees / Supervisors	a. Ensure required JHAs are developed, reviewed and complied with.
Contractor/Subcontractor	a. Ensuring JHAs are developed as required and reviewed by the employees before work begins. b. Ensuring affected employees' review applicable JHAs (written or verbal), and the content is documented on the PJBF seeking advice from Site Safety Representative or ES&H Manager as appropriate. c. Approving written JHAs completed by employees in their group. d. Conducting a pre-job walk down to analyze the hazards and determine if a JHA is required. e. Conducting a pre-job briefing with employees before work begins. f. Ensuring employees are trained in the process of developing a JHA. g. Ensuring employees are trained/qualified to perform the task and safely use tools/equipment in the completion of the job. h. Ensuring worker qualification is documented on the PJBF. i. Assuring the work is performed in accordance with the JHA.

27.5. FIGURES: JOB HAZARD ANALYSIS

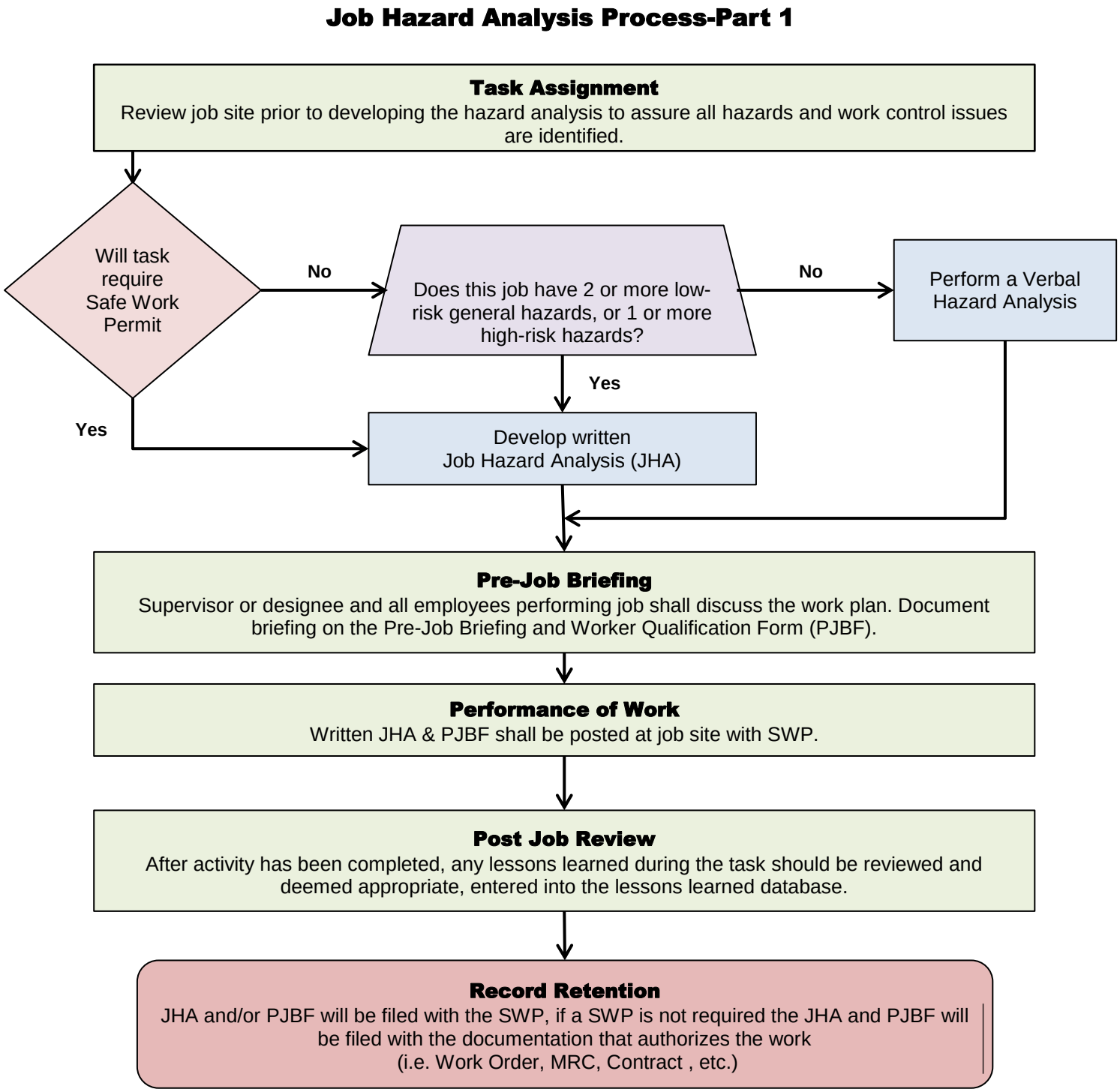

Figure 27-1. Planning for Safety: Job Hazard Analysis Process-Part 1

Document Location: My SPR > Mission > Safety and Health > Document Center

Figure 27-2. Planning for Safety: Job Hazard Analysis Process-Part 2

Note: All tasks which require heavy equipment operation or a safe work permit to mitigate identified hazards require the development of a job hazard analysis. Task performed which require a work authorization may or may not require a JHA based on the risk level s in this appendix. **The low risk general hazards and high risk hazards identified are to be used as a guide in developing JHAs, but are not all-inclusive.**	
Low-Risk General Hazard (If your task has **TWO** general hazards, write a Work Plan/Hazard Analysis/Procedure)	High-Risk Hazards (If your task has **ONE** high- level hazard, write a Work Plan/Hazard Analysis/Procedure)
Chemicals, Hazardous or Toxic Substances	
Use of chemicals/materials which, under a normally controlled work environment, do not pose a significant safety or health hazard. [Refer to the Material Safety Data Sheet (MSDS)]. Contact ES&H department for guidance in determine the hazard level of chemicals. **Note**: Ensure chemical or substance is approved for use on the SPR by referring to the approved products list on the DM SharePoint site.	Use of chemicals/materials which may pose a significant safety or health hazard. (Refer to the MSDS). Contact ES&H department for guidance in determine the hazard level of chemicals. **Note**: Ensure chemical or substance is approved for use on the SPR by referring to the Qualified Products List (QPL) on the DM SharePoint site.
Confined Space Work	
N/A	All work to be performed in a confined space regardless of, whether it has been reclassified requires development of a JHA.
Crane , Hoist & Forklift Use	
Routine operations of cranes, hoist equipment or forklifts by qualified operators who possess the core competencies identified in their job description or PBT&Q manual.	Operation of lifting equipment when a specific lift plan is required. Lift plan is required when the load requires exceptional care in handling because of size, shape, weight, close tolerance installation, high susceptibility to damage, or other unusual factors as prescribed by the DOE Hoisting and Lifting manual.
Electrical Work	
Tasks during which workers are likely to be exposed to voltages (less than 50 volts), currents, or stored electrical energy of sufficient magnitude and duration to startle the employee	Tasks near or on exposed electrical conductors, circuits, or equipment greater than 50 volts and that have the potential to be energized or where there is potential exposure to electrical shock or a potential for arcing, flash burns, electrical burns, or arc blast.
Environmental	
Tasks that have the potential to generate waste with a chemical that has a flash point below 140 degrees F, a pH below 2, a pH greater than 12.5, or which contains any toxic substance (see MSDS).	Tasks that have the potential to release hazmat on site. Tasks that have potential for release of reportable quantities of crude oil or brine. Any task that has potential for regulated waste.
Excavation and Digging	
N/A	Tasks that require excavation or trenching, including breaking the surface of the ground requires an excavation safe work permit and a JHA. **NOTE**: All excavations must be overseen by an excavation competent person.

Fall Exposure	
Any task from a ladder or platform less than 4 feet from the ground or floor.	Tasks which have fall potential greater than 4 feet requires the use of fall protection devices shall have a JHA. Any use of scaffolding, to perform the task, including erection of the scaffolding. **NOTE**: Any erection or dismantling of scaffolding must be overseen by scaffolding competent person. Tasks requiring work from a scissor lift, articulating boom lift or man lift requires development of JHA.
"First time use" of New or Unfamiliar Equipment	
Potential hazard with any first time use of mechanical or electrical equipment if a minor injury could occur. Tasks that have potential ergonomic impact. Ergonomic issues are described as those which require “repetitive motion”. Tasks presenting unfamiliar minor hazards to employees	First time work with new equipment where a significant injury or property damage potential exists.
Classified Areas (Class 1 Div. 1 or 2)	
Note: National Electric Code (NEC) codes are used to classify areas which pose a risk of fire or explosion by electrical arcing, spark or heat. Routine tasks in this area do not require issuance of a safe work permit.	All tasks with the potential for producing an ignition source in classified areas require issuance of a safe work permit and development of JHA.
Hand Tools	
Tasks using commercially available hand tools including those with guards and/or safety devices when no safe work permit is required.	All tasks with commercially available hand tools when a safe work permit is required. Non-routine work requiring the use of commercially available hand tools where the worker is exposed to the unguarded cutting surface.
Hydraulic and Pneumatic Systems	
Tasks which involve connecting hoses or lines to pressurized oil, water, brine or air systems. Tasks which require monitoring pressures on caverns or process systems during fluid movements or stand by operations. Tasks which involve pressure washing operations. Tasks associated with fire water system operations.	Any task where a sudden uncontrolled release of pressure (hydraulic or pneumatic) could result in injury.
Machining and Grinding	
Tasks which require machining or grinding in a shop environment by qualified personnel who meet core competency criteria. Any work that generates sparks in an area with flammable liquids or combustible materials.	Any tasks which require machining or grinding hazardous materials.
Noise Hazard	
Eight hours of work in an environment where you must raise your voice (but not shout) to be heard from a distance of 3 feet. Communication is difficult due to noise.	Two hours of work or more per day in an un-posted environment where it is necessary to shout in order to be heard from a distance of 3 feet. Work that exceeds a posted noise hazard limitation. (Typically 8 hrs. @ 85 dBA).
Other Work Environments	
Nuisance dust from general cleaning, sweeping, or windy conditions.	Any tasks with potential exposure to hazardous materials or products including crude oil. Tasks performed when restrictions in the heat stress program are activated. Any task in an area where a radioactive source is present and a SWP is required.

Repetitive Motion or Ergonomically Challenging Tasks	
Lifting unusually-shaped or heavy (less than 50lbs, greater than 50lbs requires assistance) objects. A workstation assessment should be considered with repetitive motion tasks. Work conducted from awkward positions, stooping, twisting, stretching, etc.	N/A
Respiratory Hazards	
	Work that requires respirator protection due to a potential overexposure.
Stored Energy	
N/A	Any task on equipment with mechanical stored energy hazards. Any task on equipment where there is potential for unexpected release of energy (hydraulic, pneumatic, thermal, electrical potential, etc.) where Lock Out Tag Out (LOTO) and issuance of a SWP is required.
Welding, Flame Cutting, Brazing, Open Flame Work	
Welding work in an area where passers-by can see the arc.	Any task which requires a hot work permit in areas where combustible or flammable materials exist require a JHA.