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1.0 Applicability

This Program applies to all SMU faculty, staff and service providers who work under contract for SMU at all facilities owned and/or operated by SMU.

2.0 Scope

This Program provides instruction to prevent injuries by outlining the acceptable minimum guidelines for the development and implementation of Job Safety Analyses (JSA) in furtherance of SMU's accident prevention efforts, and to comply with regulations and SMU Programs.

This Program conforms to SMU's policies and EHS Management System standards and guidance documents; and complies with regulatory requirements.

3.0 Definitions

The following terms are defined in order to allow a better understanding of this Program:

- **Competent Person:** means any person who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.
- **Emergency Response Plan:** A plan of action for the efficient deployment and coordination of services, agencies and personnel to provide the earliest possible response to an emergency. The plans may be as simple as "call 911", or ensuring the SMU Emergency Response Center is ready for activation. The level of Emergency response planning is relevant to the risk ranking of the job undertaken.
- **Job Safety Analysis (JSA):** A job safety analysis (JSA) is a procedure which helps integrate accepted safety and health principles and practices into a particular task or job operation. In a JSA, each basic step of the job is to identify potential hazards and to recommend the safest way to do the job.

4.0 Core Information and Requirements

4.1 JSA Concept:

A Job Safety Analysis (JSA) is part of an overall safety management system that incorporates Quality and Safety concepts. JSA's can be referenced prior to or during safety meetings for hazard awareness and to create personnel assignments for specific jobs. JSA's can also serve as a guide for new employee training, as a refresher on jobs that are performed infrequently, and as an accident investigation tool.

Performing a JSA is a team effort. Involving others in the process reduces the likelihood of overlooking potential hazards. A team effort also increases the likelihood of identifying the most appropriate measures for eliminating or controlling hazards. Delegations of responsibilities should be made during the tailgate meeting or safety meeting in which the JSA is completed. Team members may include the employee(s) who will perform the task, contractors, a safety representative, and/or an engineering professional or task supervisor, as appropriate.

4.2 When Are JSA's Required?

JSA's **are required** for all jobs that:

- Are non-routine
- Are new to the Business Unit
- Have undergone changes in process and procedures
- Job permit required (hot work, ground disturbance confined space), 1910.146
- To determine where and when PPE is deemed necessary, 29 CFR Part 1910.132
- For documenting lockout / tagout procedures, 29 CFR Part 1910.147

JSA's **are recommended** for follow types of jobs:

- Jobs with the highest injury or illness rates
- Jobs in which one simple human error could lead to a severe accident or injury
- Jobs complex enough to require written instructions.

4.3 Basic Criteria

Evaluate the worksite and job scope to determine where hazards exist. When feasible, eliminate or reduce hazards by using engineering controls or other hazard reduction methods.

The basic criteria in the JSA must include:

- An accurate definition of the scope of work.
- Signatures of the persons involved with creating and reviewing the JSA.
- A minimum of 5 job steps. A maximum (normally) of 10 job steps.
- The job hazards
- Control of the hazards
- A competent person who inspects the work site as a prerequisite for conducting the JSA.
- A competent person who assesses all equipment used in performing work as fit for the purpose through inspection and/or review of any certification.
- Establishment of emergency response plans, based on potential emergencies, before commencing work. Meaning; what initial reactionary response to make, who to contact, or local contact information.

Know the potential hazards of the area.

If you do not, then perform an initial Hazard Assessment. Close observation and knowledge of the job is important. Examine carefully to find and identify hazards that can result in an accident or injure someone during the performance of the work. Compiling an accurate and complete list of potential hazards will allow you to develop the recommended safe job procedures and assignments needed to prevent accidents.

Assessments must include a walk-through survey of the work areas with consideration given to, but not limited to the following hazard types:

- Impact
- Penetration
- Compression (roll-over)
- Chemicals (including spills)
- Heat
- Harmful dust
- Light (optical) radiation
- Ionizing radiation
- Sources of motion
- High temperatures (including fires)
- Falling objects
- Sharp objects
- Electrical hazards
- Workplace layout/worker proximity

To reduce risk, consideration of hazard control measures in the following order:

1. Elimination
2. Substitution
3. Control
4. Mitigation

4.4 Procedures

A form **QF-001-1 Job Safety Analysis** will be utilized on every job type listed in section 4.2. If there is an existing template for the job task being performed, the existing JSA may be reviewed and updated for relevancy to the current hazardous conditions and planning required.

Four basic stages in conducting a JSA are:

- Selecting the job to be analyzed
- Breaking the job down into a sequence of steps
- Identifying potential hazards
- Determining preventive measures to overcome these hazards

4.4.1 Creating a New JSA

Document the general procedures on form **QF-001-1 Job Safety Analysis Form.**

1. List in sequence of basic job steps:

- Assemble the work team and review the information available to plan the work.
- Each job or operation will consist of a series of tasks. Break the job into segments, using simple action phrases that are short and to the point, such as "Position the truck."
- Breaking a job down into segments will enable you to identify energy sources and working positions that are potential hazards to employees.
- Be sure to list all the segments needed to perform the job. The segments should be numbered to indicate the order in which they are performed.
- Identify all of the personnel, equipment, PPE, and procedures needed to perform the task. Delegate job duties appropriately.
- Add this information to the JSA.

Verify that appropriate documents (as required) are identified, available and reviewed. This includes, but is not limited to, operating procedures, SDSs, etc.

2. Identify hazards associated with each step of the job task:

- Examine each segment carefully, and identify every real or potential energy source present during the performance of that particular segment of the work
- Explanations of dangers should be short phrases that describe both the hazard and the potential result, such as "Caught between moving load and fixed object."
- Label each hazard with the number from column one and a lower case alphabet character (1a, 1b, 1c, etc.).

To identify hazards, ask questions like these about each job segment:

- Struck Against–Can the worker strike against an object during this step of the job?
- Struck By–Can an object forcibly strike the worker during the job?
- Contact With–Any form or physical substance or item.
- Caught In–Can the worker or any part of the body be caught in an enclosure or trapped in a confined space?
- Caught On–This is usually associated with incidents where a worker's clothing is caught on some projection or moving object. The moving object could pull the worker into the object and result in a contact injury.
- Caught Between–These types of incidents usually involve a part of the body caught between two moving objects or something stationary causing pinch points.
- Fall–Same Level–Can the worker fall while performing the job task? These include slip, trip, and fall hazards. These are the most frequently occurring injuries.
- Fall–Below–This can occur when working above ground level or above floor level.
- Overexertion–The worker could be injured by lifting, pulling, or pushing. This also includes sprain, strain, or repetitive job injuries.
- Exposure–This includes conditions such as exposure to toxic gas or chemicals, extreme temperatures, high noise areas, or harmful fumes or mist.
- Other–Identify hazards elated to simultaneous operations and risks to short-service employees (<6 months on job) or inexperienced personnel. Establish appropriate controls such as an identification process and mentoring program.

3. Recommended corrective action or procedure:

For each step of the job task and for every hazard identified, determine what actions or procedures are necessary to eliminate, control, or mitigate the hazards that could lead to an injury, illness, or harm to the environment.

Begin by trying to:

- Eliminate as many hazards as possible.
- Substitute to minimize hazards (e.g., less hazardous chemical, etc. [if applicable]).
- Guard (control) the hazard either mechanically or by job assignment to prevent injuries.
- Mitigate hazards by making personnel assignments to verify that job communications, locations of people, and job responsibilities are understood.
- Eliminate unsafe working positions through procedural modification.
- Assign personal protective equipment to be used (if applicable).

Identify exactly what needs to be implemented in order to remove or manage each individual hazard, including assigning the name of the person responsible, such as:

- "John Doe" (head Plumber) is responsible for verifying we have a dig permit
- Using the job title, when appropriate, can give indicators as to who would normally be assigned that task. Each hazard should have a person assigned/named to control it.
- Serious hazards should be corrected immediately. The JSA should then be changed to reflect the new conditions.
- After the basic JSA is created and used, any oversights should be added. The JSA can then be stored electronically and printed out for use the next time the job needs to be performed.

4.4.2 Existing Job Safety Analysis Review

Refer to and use the specific procedure (s) listed within your departments JSA Book.

Copy the JSA number from the top of the existing JSA document to a blank form **QF-001-1**.

Use the blank form to update any missing job steps, new hazards, place current date, etc on the new form.

Have all participating employees sign the new form after reviewing the JSA.

If no JSA exists for the job task at hand, fill out in the entirety form Q-001-1 and return the copy to your business unit manager. The business unit is to return a copy to the ORM. The new JSA is to be maintained in the ORM and business unit JSA station.

4.5 Contract Personnel

Whenever contract personnel are to be engaged in activities covered by this Program, the primary SMU contact and the contract employer shall inform each other of their respective JSA procedures. If both SMU and contractors are involved in the job task at hand, a JSA form shall be created with both SMU and Contractors participating in the job safety analysis.

The exchange of JSA Programs between SMU and the contract employer must take place before beginning any contractual work.

The primary SMU contact and the contract employer will ensure that the contract personnel understand and comply with SMU's JSA requirements.

Contract employers are responsible for ensuring that their personnel understand and comply with the requirements of OSHA standard for risk assessments and hazard controls.

5.0 Roles and Responsibilities

5.1 Executives and Administrators

- Ensure that responsibilities assigned within this Program are carried out within their administrative work units.
- Monitor implementation of this Program within their work unit.
- Ensure adequate funding is available to support this Program.

5.2 Office of Risk Management

- Assist work units in implementing the provisions of this Program.
- Develop training materials related to this Program.
- Assist in providing general JSA training to employees.
- Maintain records in accordance with this document.
- Periodically audit and update the JSA Program as needed.
- Coordinate implementation of the JSA Program within the work unit.
- Ensure required training is provided to employees within the work unit.
- Assist in the investigation of all injuries and incidents involving JSA.

5.3 Directors and Managers

- Be thoroughly informed of the contents of this Program and how it applies to their areas of responsibility and authority.
- Ensure employees comply with all provisions of the JSA Program.
- Ensure employees receive general JSA training.
- Provide training to employees on equipment-specific JSA procedures within the work unit.
- Ensure that the records of this document are maintained for their work unit.
- Ensure copies of JSA (QF-001-1) are available for employee use.
- Ensure equipment-specific JSA procedures are developed within the work unit.
- Update and maintain copies of the specific JSA list that is required for all jobs.
- Make positive changes based off of corrective actions as determined from annual review of program and periodic permit assessments.
- Investigate all injuries and incidents involving JSA failures.
- Complete annual JSA inspections in accordance this document.

5.4 Employees

- Comply with all provisions of the JSA Program.
- Perform and participate in JSA's.
- Allow all members of the team to participate and add content to the JSA's as necessary.
- Attend JSA training sessions as required.
- Promptly report any concerns related to JSA's to their immediate supervisor.

6.0 Goals, Objectives and Performance measures

Work Unit and Contractor performance measures related to this program are incorporated into scorecards.

Individual performance measures related to this program are incorporated evaluations and monitoring.

6.1 Performance Measures

It is the goal of SMU to have zero accidents. This goal can only be met by setting objectives and measuring our current performance against those objectives. Audits and inspections of the Program and usage of the Program by SMU employees will take place periodically and annually.

Performance measures are will be incorporated into EHS scorecards. Individual performance measures related to this Program may be incorporated evaluations and monitoring.

6.2 Periodic Inspections

Inspections will be conducted to evaluate and correct any deficiencies in the Program. Periodic inspections are completed as part of an ongoing quality process.

- Supervisors are responsible for completing periodic inspections on at least an annual basis in order to ensure adherence to the JSA procedures described in this document.
- Inspections will focus on correcting any deviations from JSA procedures.
- Inspection records are to be maintained by the work unit and must be available for review by EHS.

6.3 Annual Inspections

Annually, SMU will inspect JSA's of jobs that have a high potential for accidents and ensure quality and compliance. The inspection documents will be kept on record with EHS for three years.

6.4 Consequences

ORM will record any reports or observations of unsafe operations or conditions. Failure to follow this program, the procedures, render common practices or courtesies, or follow regulation standards may resulting in progressive disciplinary action up to and including termination.

7.0 Training

JSA Training will be provided initially upon hiring for SMU employees.

SMU will keep records of employee training. The training records will include employee name, training date, and the content of the training. Documentation of training will be kept for at least three years from the training date.

The level of risk assessment (hazard analysis / safety analysis) training provided to employees is based on their level of involvement with hazard analysis, the potential to perform job tasks that have a high potential for accidents, and what is required by current regulation.

EHS Group will provide general JSA training to their employees. Supervisors are responsible for training their employees on equipment-specific JSA's and other hazard analysis's.

Work units are responsible for maintaining a record of all JSA training provided to their employees. EHS will maintain records of JSA training provided by EHS personnel.

8.0 Program Evaluation

The ORM will review the effectiveness of the Program by:

- Verifying and documenting that all qualified persons have had appropriate training.
- Reviewing of injuries related to lack of JSA's performed.
- Reviewing of incidents related to applicable JSA's.
- Documenting and reviewing the periodic inspections and annual Program inspections of JSAs as documented by individual departments. Identification of any deficiency will result in an appropriate change in procedures, or other measure being taken.
- Providing an annual review of the JSA Program for compliance and opportunities for improvement.
- Revising the written JSA Program as required.

9.0 Resources

Business Units shall ensure that appropriate resources are identified, allocated, and verified to ensure this Program is communicated and implemented to their employees.

10.0 Associated Forms, Documents, and References

10.1 Forms

Appendix A: (Authorized Employee) Job Safety Analysis Form QF-001-1

10.2 Document Control

Owner departments must keep records concerning JSA, inspections, inventories and training.

JSA work stations will be kept online or in a document book for quick reference by employees at the time of the job planning.

All records must be kept for a minimum of 3 years within the department. The records must be made available to regulatory agencies such as OSHA and EHS upon request.

SMU will keep records of employee training. The training records will include employee name, training date, and the content of the training. Keep documentation on training for at least three years from the training date.

10.3 References

- 29 CFR 1910, Subpart I (PPE)
- OSH Act; General Duty Clause, Section 5a
- 29 CFR 1910.146
- 29 CFR Part 1910.132
- 29 CFR Part 1910.147

11.0 Reviewed By

Date of Review	Reviewed By	Reason for Review
01-08-2018	EHS Group	Internal audit for compliance, design control
02-16-2018	Manager Review Group	Awareness, EHS quality process- Management Review
03-27-2018	AVP / CRO	Approval of draft program
	Legal	
	Human Resources	

12.0 Revision History

Revision Number	Date of Revision	Revision Description	Basis for Revision
Draft	01-11-2018		
V1	03-27-2018	Out of draft status	Internal reviews completed

13.0 Decision Record

Date of Decision	Approved By	Decision Description	Basis for Decision
03-27-2018	AVP / CRO	Implementation of program	EHS quality process - Continual Improvement

SMU Form	JOB SAFETY ANALYSIS
Owner: Risk Management **Revision No:** 01	**Document number:** QF-001-1 **Date last revised:** 03-27-2018

Worksite:		Date:	Revisions:	(Date/Initials)

Description of Work:

Potential Hazards: (Check those that apply)			
☐ Lifting hazards ☐ Fall potential ☐ Electrical shock	☐ Skin irritants ☐ Confined spaces ☐ Elevated load or work ☐ Short service employees ☐ Potential release of energy	☐ Water/ drowning hazard ☐ Fire or explosion potential ☐ Excavation hazard ☐ High noise levels ☐ Ionizing radiation	☐ Environmental extremes ☐ Pinch, crush, or striking hazards ☐ Hazardous chemical exposure ☐ Sharp edges or hot/ cold surfaces ☐ Other: _____

Applicable Safe Work Practices: (Check those that apply)	**Emergency Response**
☐ Hot work permit ☐ Control of hazardous energy form ☐ Ground disturbance permit ☐ Confined space entry permit ☐ Simultaneous operations (SimOps) ☐ Use of specialized PPE ☐ Review of special emergency action plans ☐ Other:	Contact number in emergency situation: Nearest crossroads/coordinates: Muster point:

Required PPE for Job Task: (Check those that apply)			
☐ Steel toed boots ☐ Hard hat	☐ Lifeline/Body harness ☐ Safety glasses ☐ Goggles ☐ Face shield	☐ Hearing protection ☐ Safety shoes ☐ Air purifying respirator ☐ Supplied air respirator	☐ PPE clothing (FRC) ☐ Gloves ☐ Other:

List and discuss the major job steps, the potential hazards of each step and associated consequences, and actions to eliminate or reduce hazards, and revise as conditions change during the course of the day's activities.

Major Job Steps	Potential Hazards & Consequences	Actions Taken to Eliminate Hazard

Everyone understand the job hazards associated with the work? ☐ Yes ☐ No

Are all applicable permits in place (hot work, confined space, lockout/tagout)? ☐ Yes ☐ No ☐ NA

Are all workers trained in the specific job tasks? ☐ Yes ☐ No

Does everyone understand the job's emergency response plan? ☐ Yes ☐ No

JSA Participants by signing below you are indicating that you have participated in the Job Safety Analysis.

# of Participants	Printed Name	Signed Name
1		
2		
3		
4		
5		
6		
7		
8		