



High Risk Job Safety Analysis

This form must be completed by the contractor and submitted to the Technical Representative for approval prior to work commencement. In addition, this form must be maintained at the site where work is being performed. The scope of work and all MSDSs must be attached to this JSA before it may be reviewed and signed as reviewed.

Project/Job Title _____

Contract Number _____ Building/Area _____

Contractor	Argonne
Contractor _____	Project Manager _____
Project Manager _____	Phone No. _____
Phone No. _____	Alternative No. _____
Alternative No. _____	Project Safety Mgr. _____
Foreman _____	Phone No. _____
Phone No. _____	Alternative No. _____
Alternative No. _____	Project Specialist/Tech Rep. _____
ESH Rep _____	Phone No. _____
Phone No. _____	Alternative No. _____
Alternative No. _____	Other _____
Contractor Designated Authorized or Competent Person	Argonne Reviewers
Excavation _____	Division Qualified Employee _____ Date _____
Confined Space _____	Division ES&H Coordinator _____ Date _____
Scaffolding _____	ESQ-SME (as needed) _____ Date _____
Fall Protection _____	FMS-PSM (as needed) _____ Date _____
NFPA 70E _____	
Additional/Optional SME Reviewers	
SME (as needed) _____ Date _____	<i>If FMS is <u>not</u> engaged and the division does not have the qualified employee on staff, the <u>ESQ SME and ES&H coordinator signatures are required.</u></i> <i>If FMS is <u>engaged</u>, the <u>FMS-C&SM and ES&H coordinator signatures are required.</u></i>
SME (as needed) _____ Date _____	
SME (as needed) _____ Date _____	

Project manager must indicate who is identified to review and approve this JSA as the "ESQ-SME (as needed)" signature.

ESQ
 FMS
 Division Qualified Employee

Contractor Project Manager Review _____

Name _____ Date _____

Argonne Project Manager Review _____

Name _____ Date _____

Phase of Work	Safety Hazard	Precautions/Safety Procedures
Use of hand tools	Broken or Unauthorized Tools	All tools and equipment must be inspected by Argonne personnel prior to use. This includes tools and equipment brought on site after the project has started. Any tool or piece of equipment deemed unsatisfactory will be tagged and removed. Any tool or piece of equipment that leaves the Argonne site must be re-inspected upon its return. GFCIs must be used on all portable electrical equipment, 125v or less. Extension cords must be at least 14ga.
Using Portable Ladders (e.g., A-frame, straight, or extension)	Falls	Before use, check the load rating of the ladder, to make sure the ladder can support the combined weight of the user, the weight of tools, and the weight of any material that will be placed on the ladder. This includes the weight of anything that may be supported by the user.
Delivery of materials or equipment	<p>Gap between delivery vehicle and the dock</p> <p>Stepping off the edge of a tail or lift gate</p>	<p>When utilizing a dock, trucks must be backed to the dock to minimize hazardous gaps.</p> <p>Dock plate or dock levelers must be used to bridge when the gap between the vehicle and the dock creates a hazard for the equipment or materials being transferred.</p> <p>Makeshift dock plates/bridges are not allowed.</p> <p>Do not overcrowd the area of the lift gate. Always leave enough room for the employee to safely maneuver themselves and material/equipment being transferred.</p> <p>Working or standing on the tailgate while loading or unloading equipment or material is prohibited.</p>
Hazardous Energy Sources	Stored energy, Employee Exposure, Electrical Shock, Chemical Exposure	Follow approved Argonne procedure for LO/TO of this system. Argonne will initiate and lock out first with contractor to apply locks over Argonne. Contractor must provide their own locks/tags for each contractor employee for each LO/TO point. Argonne must review and approve proof of contractor LO/TO training before contractor may apply/participate in LO/TO. Zero energy state verification of LO/TO must be performed by a person trained in NFPA 70E and using required PPE.
Handling of Chemical/Products	Chemical exposure	Submit for review by Argonne all MSDSs for materials that will be used on site by the contractor. These MSDS(s) must be submitted with this JSA for review prior to approval. Review and adhere to MSDS before handling chemicals/products. MSDS will be at job site attached to JSA. If additional PPE is prescribed within MSDS, the Contractor must acquire and utilize addition PPE.

Phase of Work	Safety Hazard	Precautions/Safety Procedures
Welding, Cutting, Brazing, Soldering, Grinding	Fire Sparks Generation	<p>A Fire Watch as required by the Open Flame Permit</p> <p>An Open Flame Operating Permit is required before any open flame work may be done.</p> <p>All personnel engaged in welding or cutting job tasks shall wear all industry recognized PPE to protect from burns either to the skin or the eyes. All permit authorized areas need to be permitted for open flame work by Argonne personnel. All workers assigned to the job will review the open flame operating permit.</p> <p>A 20 lb. ABC fire extinguisher shall be readily accessible and immediately available when any open flame work is performed. Combustibles and flammables must be kept clear of the open flame work area. Fire watches must be trained and competent in the use of fire suppression equipment. Fire extinguishers must be checked monthly. Fire watches must have the means and know to call the Argonne Fire Department in case of an emergency. Fire watches are to remain 30 minutes after completion of open flame work is stopped. Note: Check with Project Specialist/Technical Representative/ Point of Contact to determine potential impact to the smoke detection system from open flame work.</p> <p>Oxygen and acetylene cylinders will be stored and secured in an upright position with caps in place with a minimum of 20 feet separation or separated by a noncombustible barrier at least 5 feet high having a fire resistance rating of one half hour except when in an approved cart ready for use. Proper signage regarding “No Smoking” or “Ignition Sources” must be posted.</p> <p>Smoking is only allowed in designated smoking areas.</p> <p>Butane (e.g., Bic) lighters are not allowed to be carried by contractor employees engaged in welding or torch cutting/brazing or soldering operations.</p> <p>All torch set cylinders must have the valves closed and the system de-pressured before going to breaks or lunch.</p> <p>All oxygen/acetylene set-ups must be equipped with flash back arrestors</p>
Safety	Safety violations	Imminent Danger violations will result in an immediate 6 month suspension, regardless of whether or not the work is complete. Other lesser violations will

Phase of Work	Safety Hazard	Precautions/Safety Procedures
		receive “tickets” and/or other penalties per the contract.
<p>Ordinary Lifts (The use of cranes, hoists, forklifts, or chain falls to move, place or lift items)</p>	<p>Dropped load</p> <p>Calculations not computed properly</p> <p>Equipment not inspected</p> <p>Striking overhead electric lines</p>	<p>Coordinate with the FMS Project Safety Manager (PSM) any potential lifts. Follow the Argonne Manual of Construction.</p> <p>On-site crane inspections by Argonne</p> <p>Operation training license/certification</p> <p>Operator medical</p> <p>Third party inspection for cranes</p> <p>Approved lift plan if needed</p> <p>Maintain 20-ft. distance from overhead electrical lines and equipment</p>
<p>Critical Lifts (The use of cranes, hoists, forklifts, or chain falls to move, place or lift items)</p> <p>1. The load item, if damaged or upset, would result in a release into the environment of radioactive or hazardous material exceeding the established permissible environmental limits.</p> <p>2. The load item is unique and, if damaged, would be irreplaceable or not repairable and is vital to a system, facility, or project operation.</p> <p>3. The cost to replace or repair the load item, or the delay in operations of having the load item damaged, would have a negative impact on facility, organizational, or DOE budgets to the extent that it would</p>	<p>Dropped load</p> <p>Calculations not computed properly</p> <p>Equipment not inspected</p> <p>Disruption of operations or experiments</p> <p>Environmental releases</p> <p>Striking overhead electric lines</p>	<p>A critical lift plan on an FMS-578 must be submitted to the Argonne Critical Lift Committee for approval prior to any lift. Distances, weights, electrical obstructions underground utilities will be discussed.</p> <p>On-site crane inspections by Argonne</p> <p>Operation training license/certification</p> <p>Operator medical</p> <p>Third party inspection for cranes</p> <p>Approved lift plan</p> <p>Maintain 20-ft. distance between overhead electrical lines and equipment (cranes & derricks)</p>

Phase of Work	Safety Hazard	Precautions/Safety Procedures
affect program commitments.		
Critical Lifts (Cont.) 4. A lift not meeting the above criteria shall also be designated critical if mishandling or dropping of the load would cause any of the above noted consequences to nearby installations or facilities.		
Elevated work at heights at above 6 feet	Fall Hazards	(fill in if needed)
Working in Confined Spaces	Asphyxiation, Engulfment or Entrapment	(fill in if needed)
Working with respirators	Airborne particulates	(fill in if needed)
Asbestos		(fill in if needed)
Scaffold		(fill in if needed)

Material Safety Data Sheets (MSDS)

Hazardous materials to be used on this site are:

- 1. _____ 3. _____ 5. _____
- 2. _____ 4. _____ 6. _____

Argonne Contractors Requirements for High Risk Projects

- 1. All contractor personnel assigned to work under high risk contracts on the Argonne site will attend Argonne Contractor Safety Orientation (CSO) for service contracts, unless the contract is for demolition. If the contract is for demolition, the contractor must attend Safety Orientation for Construction. The contractor must maintain proof of this training on his/her person by carrying the CSO Argonne card, provided by the instructor. The contractor must provide proof of this training to an Argonne or DOE representative when requested.
- 2. The contractor must have a 10-hr OSHA trained employee on site at all times when work is performed. This employee is the contractors ES&H Representative. Proof of this training must be provided and the employees name will be written on the JSA cover page.
- 3. All contractor personnel must attend building/area orientation in relation to their scope of work to ensure they are aware of shelters during severe weather or emergency evacuation meeting points as well as any other special conditions in relation to the specific building/area.
- 4. The contractor must report in daily, by 8 am, the number of employees he has on site by calling 630-252-7200. Additional information required includes the building number or area where the work is being done as well as the contract number. In addition, notification to the PS/Tech Rep of arrival and departure is required.
- 5. Imminent danger violations will result in an immediate 6-month suspension. Other lesser violations will receive “tickets” and/or other penalties per the contract.
- 6. All energized electrical “hot work” requires a, reviewed and approved written procedure, along with a completed and approved Energized Electrical Work Permit (ANL-211) that details all steps to be taken, safe guards to be used and PPE needed to safely conduct this evolution.
- 7. In case of any injury or illness, no matter how minor, contact the Argonne National Laboratory Fire Department by calling (inside line) 911 (by cell phone) 630-252-1911. The Tech Rep/PS must also be immediately informed of the situation.

Review of Emergency Routes and Assembly Point:

Emergency Phone Number* Argonne Phone – 911.....Cell Phone 630-252-1911

Location of assembly point: _____

Location of Tornado Shelter _____

* This information to be provided by the Argonne PS/Tech Rep.

Basic Safety Rule Reminders:

1. Hard hats must be worn where there is a potential of falling objects, or bump hazards. All hard hats must comply with ANSI Z89.1, American National Standard for Industrial Head Protection.
2. Safety glasses with side shields are required to be worn at all times. All safety eyewear must comply with ANSI Z87.1, American National Standard Occupational and Educational Personal Eye and Face Protection Devices.
3. Above-the-ankle sturdy leather work boots must be worn at all times in the work zones, unless otherwise agreed upon between the PS/Tech Rep and the contractor.
4. All tools and equipment must be inspected by Argonne before use. Do not use defective tools.
5. Contractor competent persons must be on site when activities involving their discipline are being conducted.
6. Fall protection (e.g., handrails or full body harnesses) must be used when working at heights above 6 feet. Fall protection is not required when working from portable ladders.
7. Where work creates hazards, these work areas must be clearly marked (e.g., barrier tape, snow fencing, traffic cone, etc.) and appropriate signage posted to alert passers-by to hazards. All signage must be in compliance with 29 CFR 1910.145 Specification for accident prevention signs and tags.
8. All portable electric tools and equipment 125v or less must be protected by the use of a Ground Fault Circuit Interrupter (GFCI). The GFCI must be tested daily before use.
9. Do not allow materials or equipment to obstruct stairways, passageways, and access ways.
10. Maintain an orderly work area.
11. All injuries/illnesses and near misses must be reported to the Technical Representative as soon as possible.
12. All portable ladders must be made of non-conductive material. (e.g., wood or fiberglass)
13. **NO DUMPING OF ANY KIND FROM A DUMP TRUCK SHALL BE PERFORMED ON SITE WITHOUT USE OF A QUALIFIED AND COMPETENT SPOTTER.** After dumping their loads, all trucks must lower their beds before driving away. This includes all D&D operations.
14. Any laser use (class 3a, 3b, or 4) requires Argonne ES&H review.

Workers performing the job must sign below.

My employer has reviewed this JSA and answered my questions about hazards related to this job and what I need to do to work safely. I have also been given an orientation of the work area, including the location of telephones and emergency equipment, and covering how to respond to fire and severe weather.

Name (please print)	Badge No.	Signature	Date
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Note: Provide the Argonne Technical Representative with a copy of this sheet at the start of the job and again each time new workers are added to your crew.