JOB SAFETY ANALYSIS (JSA) FORM

Rev 1 Feb 24

Unit/Area:	Specific Location:	Work Authorizer (if applicable):	Supervisor / Work Lead:	Date:

Job Description for Tasks with High Potential Consequence (i.e., life-altering injuries or Consequence Level 1 process safety events including HC 1&2 events) (include Equipment Numbers as Practical):

Check LSRA(s) that apply and review Start Work Check(s). Complete Page 2 with any additional task steps with high potential consequence or if there is no applicable LSRA.

Confined Space Entry ☐

Obtain authorization before entering a confined space

1. I confirm energy sources are isolated
2. I confirm the atmosphere has been tested and is monitored
3. I check and use my breathing apparatus when required
4. I confirm there is an attendant standing by
5. I confirm a rescue plan is in place
6. I obtain authorization to enter

Bypassing Safety Controls ☐

Obtain authorization before overriding or disabling safety controls

1. I understand and use safety-critical equipment and procedures which apply to my task
2. I obtain authorization before:
   - Disabling or overriding safety equipment
   - Deviating from procedures
   - Crossing a barrier

Energy Isolation ☐

Verify isolation and zero energy before work begins

1. I have identified all energy sources
2. I confirm that hazardous energy sources have been isolated, locked, and tagged
3. I have checked there is zero energy and tested for residual or stored energy
4. I never remove or tamper with energy control devices without authorization
5. I confirm equipment is back to safe operating condition prior to re-energizing

Excavation ☐

Obtain authorization before digging or entering excavations

1. I obtain authorization prior to performing excavation / trenching / ground disturbance activities
2. I confirm underground utilities and structures are located, de-energized or protected
3. I confirm hazard controls and confined space entry as required
4. I monitor for changing conditions and exit as appropriate

Safe Mechanical Lifting ☐

Plan lifting operations and control the area

1. I confirm that the equipment and load have been inspected and are fit for purpose
2. I only operate equipment that I am qualified to use
3. I establish and obey barriers and exclusions zones
4. I never walk under a suspended load
5. I understand the lift plan prior to starting work and keep hands off load unless authorized
6. I establish and maintain communication with lifting and rigging personnel

Hot Work ☐

Control flammables and ignition sources

1. I identify and control ignition sources
2. Before starting any hot work:
   - I confirm flammable material has been removed or isolated
   - I obtain authorization
3. Before starting hot work in a hazardous area, I confirm:
   - A gas test has been completed
   - Gas will be monitored continually

Working Around Mobile Equipment ☐

See and be seen; maintain a safe distance

1. I plan work to separate workers and mobile equipment
2. I only operate mobile equipment if qualified and use spotters where required
3. I verify safety devices are functional on mobile equipment
4. I establish clear means of communication with equipment operator
5. I stay out of the equipment's exclusion zone while in operation
6. I confirm controls are in place to prevent unintentional movement of mobile equipment and/or loads

Working at Height ☐

Protect yourself against a fall when working at height

1. I inspect my fall protection equipment before use
2. I secure tools and work materials to prevent dropped objects
3. I tie-off 100% to approved anchor points while outside protected area
4. I have validated prompt rescue capability when wearing fall protection
5. I will follow safe work practices when climbing, descending or working from ladders

BreakingContainment/OPE ☐

Manage ignition sources and exposure to energy & hazardous substances

1. I verify opening/break location(s)
2. I confirm energy isolation is complete
3. I manage ignition sources and confirm gas testing is completed when required
4. I use appropriate PPE and defensive behaviors when opening process equipment

Driving ☐

Follow safe driving rules

1. I always wear a seatbelt
2. I do not exceed the speed limit, and reduce my speed for road conditions
3. I do not use phones or operate devices while driving
4. I am fit, rested and fully alert while driving
5. I follow journey management requirements

Work Authorization ☐

Work with a valid permit when required

1. I have confirmed if a permit is required
2. I am authorized to perform the work
3. I understand the permit
4. I have confirmed that hazards are controlled, and it is safe to start
5. I stop and reassess if conditions change

Line of Fire ☐

Keep yourself and others out of the line of fire

1. I position myself to avoid:
   - Moving objects
   - Vehicles
   - Pressure releases
   - Dropped objects
2. I establish and obey barriers and exclusion zones
3. I take action to secure loose objects and report potential dropped objects

Confirm these safeguards are in place and effective prior to starting work using the applicable SWC(s).
During the task, if safeguards are no longer in place or effective, STOP Work.

Are there any <u>additional</u> high potential consequence hazards present?

Electrical Energy	Moving Objects	Lighting & Visibility	Simultaneous Operations (SIMOPS) or Stacked Work
Stored Energy	Hazardous Substances	Noise & Vibration	
Thermal Energy	Radiation		

High Potential Consequence Task Steps (Description)	Check off to indicate Hold Point	POTENTIAL HAZARDS & CONSEQUENCES Include applicable Error Prone Situations and Triggers	SAFEGUARDS (Actions & Physical Safeguards) Eliminate or Mitigate the hazards
	Hold Point ☐		
	Hold Point ☐		
	Hold Point ☐		
	Hold Point ☐		
	Hold Point ☐		

Confirm these safeguards are in place and effective prior to starting work using this JSA.
During the task, if safeguards are no longer in place or effective, STOP Work.

Lessons Learned (as needed): What improvements should be made for future work? Discussion leader to provide feedback to update planning package.

LAI HAZARD ANALYSIS												
Project Number:		**Project Task:** Pipe Conduit Threading					**Location:**					
Prepared By:			**Date:**		**Reviewed By:**					**Date:**		
Ref. Number	**High Potential Consequence Task Steps**	**POTENTIAL HAZARDS & CONSEQUENCES Include applicable Error Prone Situations and Triggers**	**Target** Check off to indicate Hold Point	**Preliminary Risk Assessment**			**Control Type**	**SAFEGUARDS (Actions & Physical Safeguards) Eliminate or Mitigate the hazards**	**Final Risk Assessment**		
				H	**M**	**L**			**H**	**M**	**L**
1	General work activities (housekeeping) within and around the GOLD project	Slips, trips, and falls due to poor housekeeping resulting in personnel injury	P ☐		X		D/E /S/ W/A	Prior to starting a task, Evaluate the Lifesaving Rules and actions (LSRA) start work Checks (SWC) that may apply to that task review START/STOP work expectations and implement, Verify & Validate (V&V) the appropriate behaviors and or control Safeguards per the ExxonMobil PSMS and site HSE Procedures during the pre-task brief			X
							A	Ensure JSA for specific LAI tasks address proper hazard control methods.			
							A/D	Shop work areas shall be set up and organized to minimize the buildup of materials and eliminate slip/trip hazards.			
							D	Use pre-job stretching and flexing exercises.			

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							A/E	Proper waste management receptacles shall be utilized to control trash, debris, and scrap material.			
							A/D	Access/ egress points and walkways shall be kept clear at all times.			
							A/D /E	Extension cords, welding leads, and other cables shall be routed overhead, when possible, in a manner that does not create a slip/trip hazard.			
							A	Regular supervisor walkthroughs should identify and eliminate housekeeping hazards and ensure proper housekeeping methods are being implemented throughout the work shift.			

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							E/W A A/W /E A/D	All employees are to correct (or notify their supervisor) if they observe uneven walking/working surfaces. Care should be exercised, when surveying overhead areas. All holes/floor opening eliminated or protected with hard barricades Complete a Last Minute Risk Assessment (LMRA) prior to beginning each task			
2	Stage Pipe Using cribbing, jack-stands, rigging support Take measurements and layouts Using levels, squares, tape measure	Cuts & Abrasions (from edges and corners of material) Muscle strains from tight spots, bad body position Crushing hazards from moving or adjusting large bore pipe	P/E ☐		X		A A/D A/D	Do not place hands on corners or edges of structural material. Keep back straight. Survey the area and have safe plan to get measurements. If unable to do so consult supervisor. Never hold with your hand any object to be struck with a hammer by another worker. Hold			X

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		Pipe shifting or rolling on cribbing or jack stand Falling material due to improper jack stand use Tripping hazards from lay-down material.					S S S/D	the object with pliers or another tong-type device. Use a tag-line to control load. Maintain communication with rigging department personnel and operator. Chock pipe on both sides on cribbing. Lock both sides of 4 leg jack stand. Use a 4 leg jack stand for 6” or larger diameter pipe. Use jack stand(s) only on level solid ground when surface conditions are anything other than concrete. Level, sturdy, and rigid support material must be placed beneath the legs of the jack stands. Inspect jack stands daily for damage or missing parts. Use only complete jack stands. Do not place hands between the chain and the pipe on the vice.			

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							A/W /D	Protruding pipe material will be flagged. Lay-down areas will be barricaded and tagged with a gate for access. Material will be stored in a way that does not block access to any other material and will have clear access paths.			
3	Pipe Fabrication Cut prep pipe, Bevel, grind etc. Using electric reciprocating saw, band-saw, grinder, and drills	Excessive noise (powered tools) Cuts & Abrasions (from blades, bits, discs, or edges of material) Electric shock (damaged tools, cords) Airborne debris (cutting material) Tripping hazards (cords in walkways) Inhalation Hazard from Galvanizing Muscle pulls or arm/wrist snap from drill binding or twisting	P ☐		X		S A/D A/S A/D /S	Utilize double hearing protection (ear plugs & earmuff) anytime within 10' of operating tool(s.) Unplug power tools to change disc, bits, blades, or to adjust guard. Hold tools with both hands on designated factory handles. Inspect cords (that are not normally turned in everyday) before use and frequently throughout task to make sure no abrasions, cuts, or wear have occurred. Have GFCI. Unplug powered tools when not in use. Construct spark containment. Have a fire-watch and fire-watch			X

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							A	checklist. Fire-watch will have a horn, vest, and radio on person, fire extinguisher in close proximity. Fire-watch will be able to see and focus on spark containment. Utilize monogoggles and face shield. Run cords overhead so a 7' clearance can be maintained in the walkways. Flag cords if they are low.			
							S	Utilize a ½ mask with HEPA filter (P-100) when spraying galvanized paint			
							A/D	Hold drill with both hands, firm grip, and drill at a moderate speed. Step up in drill bit size gradually when drilling and use cutting lubricant to reduce binding.			

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4	Position pipe to cut threads, Thread pipe Using threading machine	Pinch points between pipe and jack stands Falling material due to improper jack-stand use Slipping on slick ground near machine due to cutting oil Cuts or abrasions from ends of pipe Rotating parts	P/F ☐		X		A/D D/S A/D A/S	Do not place hands under pipe and above jack-stand. Position jack-stands on level solid ground. Have absorbent pads under and around the threading machine to catch any falling cutting oil and have machine positioned on a catch basin. Do not place hands on ends of pipe at any time. Use a brush to clean threads of pipe/threading machine of metal debris/burs . Inspect cords (that are not normally turned in everyday) before use and frequently throughout task to make sure no abrasions, cuts, or wear have occurred. Have GFCI. Unplug powered tools when not in use.			X

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							A/D S	Tighten or tuck in any loose clothing. Do not place hands in or near rotating equipment. Do not use threading machine to tighten or loosen threaded fittings (or with a pipe wrench.) Do not wear jewelry on the hands or arms. Utilize mono-goggle and face shield.			
5	Install threaded pipe Using pipe wrench(es) Assemble spool using threaded pipe(s) Using jack-stands, tri-pod, pipe wrench(es)	Improper use of pipe wrench(es) Striking hazard from turning wrenches	P		X		A/D A/D	Inspect wrench before use for cracks or damage. Place the teeth of the wrench on the pipe square to the pipe and ensure that the teeth are firm to the pipe before turning the wrench. Have the correct size wrench for the corresponding sized pipe. Push wrenches away from body and others when possible. Utilize a vice or tripod to secure the pipe while turning a wrench away from body or others. If a second wrench is necessary for further securing of a pipe on a vice, have			X

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								another person pushing the second wrench away from body and on the other end of the pipe away from the first person wrenching; if possible.			

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