Line Break / Equipment Opening Checklist

EHSS-Phos Program – Line Breaking and Equipment Opening, Appendix B

√	ACTIONS
1. PREPARATION	
Permit:	
	Obtain Safe Work Permit from the Equipment Owner or person responsible for the job.
	Document the methods to be used for securing the system in the Line Breaking section of the Permit.
	Supervisor in charge of the work, or designee, ensures the Permit has been completed properly and all precautions have been accounted for.
	Verify the Work Group understands their assignment and are aware of potential hazards.
Verify PPE:	
	Check the PPE requirements to identify the required PPE for this job (Line Breaking and Equipment Opening Matrix – Appendix A).
	Equipment Owner, indicate on the Permit, in the PPE and Additional Precautions sections, the type of special PPE that is required.
Ready the Job Site:	
	Post the Safe Work Permit at a designated location available for review.
	Identify means of first aid: i.e. emergency safety shower/eyewash or other means of available flushing solution or fresh water (running water hose).
	Barricade the area in accordance with the Barricade section of the WWS Program. OR Post a watchman/attendant to ensure other workers do not enter while the line or system is being opened.
	Ensure the watchman/attendant knows they are responsible for observing the line break or equipment opening, keeping non-authorized personnel out of the area, and summoning/rendering help if needed.
	Equip the watchman/attendant with the same safety equipment and PPE as the person(s) performing the job (if in close proximity where there is potential for splash/spray hazards during the line break or opening).
	Verify the watchman/attendant: • Is not assigned any other responsibilities that would prevent him from observing the work • Has all the necessary safety equipment

	If line breaking is being performed from an Aerial Lift, verify: • The watchman/attendant is on the ground • The watchman/attendant is within sight of the job • The watchman/attendant is qualified to operate the Aerial Lift as needed in an emergency
	Verify that fire watch and fire protective devices, if required, are charged and attended.
2. ENERGY ISOLATION	
Note:	Prior to commencing any work, the Equipment Owner Supervisor shall obtain final approval as per the Matrix for Final Safety Approval.
	Obtain final approval and complete the appropriate approval section on the Permit.
Electrical:	
	Confirm all electrical energy is secured as required.
Air:	
	Confirm or secure any instrument or compressed air as required.
Hazardous Material / Highly Hazardous Material:	
	Ensure line break or equipment opening activities will not be performed by a single employee and that 2 or more workers are on the job.
	Option 1 - Isolation by double block and bleed valve **OR**
	Option 2 - Isolation by a single block valve and a locked out pump **OR**
	Option 3 - Isolation by blinding of the line
Note:	If none of the Isolation options above are possible, both Manager and Safety Department approval are required.
Note:	Automated valves shall not be used or considered an isolation point without means of physically disconnecting the power source and verifying the valve will maintain a positive position during the work.

Note:	Knife gate valves may suffice as a blind for isolating Hazardous Material lines if: • The knife gate valve shall be of the open frame type construction where the slide gate is visible at all times • The slide gate completely covers the bore of the pipe and • The motive force for actuating the valve is disabled, locked out and pressures bled down • The slide gate actuating rod is physically disconnected and a lock placed through the connector pin hold
3. LINE BREAK OR EQUIPMENT OPENING	
Note:	Always assume the line or system could contain pressurized or hazardous materials and position yourself accordingly out of the line of fire. Use proper body positioning to limit potential exposure while cautious as not to over extend.
Note:	Never break a chemical line over head where you are in the line of fire.
	Always try to secure the line, fitting, or door being opened in order to prevent it from dropping or falling when the flange, door or fitting is loosened.
Doors:	
	Place canvas or plastic shield over the door, if possible, to safeguard against spraying or splashing of hazardous materials.
Flanged Lines:	
	Place canvas or plastic shield over the door, if possible, to safeguard against spraying or splashing of hazardous materials.
	First loosen the bolts on the side opposite of you to prevent any trapped material or residual material from spraying in your direction.
	Break the flange seal carefully to ensure all the contents have been drained and the line or system is clear.
	Remove all bolts.
Special Steps and Considerations to take for:	
Flammable / combustible materials or those that present a respiratory hazard (example ammonia):	

	Test lines with appropriate and calibrated instruments before the initial work begins (check concentration at sample ports or at bleed valves) to the greatest extent possible.
	Test lines with appropriate and calibrated instruments when the initial bolt or bolts are loosened when there is potential for leakage.
Note:	If flammable/combustible vapors exceed 10% of the LEL or toxic vapors (ammonia 25 ppm or more) are present re-bolt and have the system flushed or purged until vapors are at an acceptable level.
Ammonia:	
	Proper respiratory protection is used.
	The area is barricaded off properly.
	Special precautions are listed on the Safe Work Permit.