

## Install and Monitor Vapor Barriers

### OQ Task Name

Task XX.X – Install and Monitor Vapor Barriers

### 1.0 Task Description

This task involves sealing and monitoring a portion of pipeline with a vapor barrier (e.g. mud plug, freeze plug, dry ice, inflatable, mechanical) for the purpose of isolating hazardous vapors during pipeline repairs. This task begins with the selection of the vapor barrier and ends when the vapor barrier is removed and all documentation has been completed.

The performance of this covered task may lead to the performance of other covered tasks such as:

- Perform Welding (Reference Task 42.7)

### 2.0 Knowledge Component

An individual performing this task must have knowledge of:

- Atmospheric testing to ensure the atmosphere is safe throughout the task.
- The type of vapor barrier being used in the task, including freeze plugs, mud plugs, mechanical plugs, airbags, etc.
- System design and venting measures
- Which plugs are or are not classified as vapor barriers

Abnormal operating conditions (AOC) associated with the performance of this task include:

AOC Recognition	AOC Reaction
Corrosion - External or Internal	Notify proper company personnel and document findings. Follow company policy and procedures regarding documentation and notification of appropriate company personnel.
Mechanical Damage	Notify proper company personnel and document findings. Follow company policy and procedures regarding documentation and notification of appropriate company personnel.
Unplanned Pressure Deviation	Stop work. Notify proper company personnel and document findings. Follow company policy and procedures regarding documentation and notification of appropriate company personnel.

### 3.0 Skill Component

To demonstrate proficiency of this task, an individual must perform the following steps:

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Step	Action	Explanation
1	Select the vapor barrier in accordance with Operator procedures.	For freeze plugs, ensure the area does not include girth welds.
2	Confirm isolation and ventilation of the pipeline segment.	This ensures the vapor barrier is installed on an isolated line that is vented away from the direction of the worksite.
3	Prepare the pipe surface for installation.	Preparation may vary depending on the type of vapor barrier. This step ensures that the pipeline is in good condition for vapor barrier installation.
4	Inspect the vapor barrier tool.	Ensures that the seals and other components are in good condition.
5	Install the vapor barrier.	Follow the manufacturer instructions and Operator procedures for installation. Some Operators may require a secondary mud face.
6	Test the integrity of the seal.	This step includes using a gas detector to ensure vapors are not present and the seal is adequate.
7	Mark off the line of fire, hazardous area, in front of the open pipe end.	This includes temporarily marking the area with flags, cones, or stakes in accordance with the Operator's procedures.
8	Monitor the vapor barrier.	<p>This step includes maintaining the vapor barrier to ensure adequate seal and monitoring to verify that there is no pressure buildup or product accumulation. Some tools have built-in venting.</p> <p>Different types of vapor barriers require additional monitoring in accordance with manufacturer recommendations. For instance, temperatures must be monitored for freeze plugs and pressures must be monitored for air bags.</p> <p>Not all vapor barriers are pressure holding devices. If pressure builds up behind the vapor barrier, a dangerous situation may be created.</p>
9	Before uninstalling, equalize the pressure on either side of the plug, if necessary.	Equalizing pressure will allow the retraction of certain plugs.
10	Uninstall the vapor barrier.	Follow the manufacturer instructions for uninstalling or deflating the vapor barrier. Continue monitoring the atmosphere per Operator procedures.
11	Document all required information per Operator procedure.	