

# Requirements for Pressurized Welding Enclosures (PWE) when welding within 10 ft of pressurized Process Equipment or Wellbay

## Request Checklist

### Office Checklist

- \_\_\_ 1. Was a request to use this PWE submitted to the appropriate district office and approved before welding operations were initiated?
- \_\_\_ 2. Is a copy of the approved plan kept on the platform during the welding operation, and was ample time available so that a Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) inspector will be able conduct a pre-job inspection?
- \_\_\_ 3. Does the PWE request also contain the following:
- \_\_\_ a. A detailed description of the work to be done.
  - \_\_\_ b. An area classification drawing showing where the PWE will be located on the platform.
  - \_\_\_ c. A detailed description of safety devices to be installed.
  - \_\_\_ d. A time frame on how long the job will take.
  - \_\_\_ e. A rough draft of the PWE showing the exits and where safety devices will be located.
- \_\_\_ 4. Will PWE be installed on H2S facility?
- \_\_\_ a. Has H2S plan been updated to include a site specific enclosure plan?
  - \_\_\_ b. Does the layout of the PWE show where SBCA equipment will be installed?

### Field Checklist

- \_\_\_ 1. Is a Pressure Safety Low (PSL) installed within the PWE that will detect the loss of positive pressure?
- \_\_\_ 2. Will the PSL activate the following:
- \_\_\_ a. Initiate visual and audio alarm inside PWE?
  - \_\_\_ b. Automatically shut down entire welding operation (Kill switch on all generators supplying power to the habitat, kill switches on all welding machines used in the operation, fail safe isolation valves on all bottles supplying cutting or burning gasses to the habitat, etc.)?
- \_\_\_ 3. Is the intake for the positive pressure ventilation system in an unclassified area?

\_\_\_4. Is the intake for the positive pressure ventilation system equipped with an Analyzer Safety High (ASH) that activates at 25% Lower Explosive Limit (LEL) and performs the following:

\_\_\_a. Initiate visual and audio alarm inside the PWE?

\_\_\_b. Automatically shut down entire welding operation as described in item 2.b. above?

\_\_\_c. Automatically shut down air intake system?

\_\_\_5. Is the PWE constructed and sealed using acceptable solid or panel type flame-retardant materials?

\_\_\_6. Does the PWE have a sheet metal plate installed in order to protect the flooring of the enclosure?

\_\_\_7. Is the PWE equipped with a manual shutdown station in the enclosure that will initiate an entire shut down of the welding operation as described in item 2.b. above?

\_\_\_8. Is the PWE equipped with Oxygen (O<sub>2</sub>) sensors that will initiate an entire shut down of the welding operation as described in item 2.b. above when the O<sub>2</sub> level drops below 19.5 percent or rises above 23.5 percent?

\_\_\_9. Is the PWE equipped with ASH sensors that activate at 25% LEL and performs the following:

\_\_\_a. Initiate visual and audio alarm inside the PWE?

\_\_\_b. Automatically shut down entire welding operation as described in item 2.b. above?

\_\_\_10. Are intrinsically safe lighting and radio communication installed inside of the PWE and does it have the ability to function when power is shut off to the PWE?

\_\_\_11. Is there at least a 30# fire extinguisher present inside of the PWE?

\_\_\_12. Is at least one firewatch equipped with radio, ASH, and fire-fighting equipment standing outside of the PWE for at least a half an hour prior to and at least a half an hour after the actual welding operation?

\_\_\_13. Does the firewatch have the capability to shut down the welding process?

\_\_\_14. Is the firewatch in close proximity to a platform Emergency Shut Down (ESD) station.

\_\_\_15. Is the firewatch able to monitor the ASH and O<sub>2</sub> levels inside the PWE?

\_\_\_16. Have drills been conducted prior to commencement of the welding, burning, and cutting operation for shutdown of the welding process and egress from the PWE for the following situations:

- \_\_\_a. ASH and O<sub>2</sub> detectors tripping inside and outside of PWE?
- \_\_\_b. Welding process shutdown initiated from inside PWE?
- \_\_\_c. Welding process shutdown initiated from outside the PWE?
- \_\_\_d. Loss of Positive Pressure inside of the PWE?

\_\_\_17. Prior to commencing any welding, burning, or cutting operation, will the following be performed:

- \_\_\_a. Job Safety Analysis?
- \_\_\_b. Safety meeting including all personnel on the platform?
- \_\_\_c. Issuance of a hot work permit?
- \_\_\_d. Pre-job meeting with all personnel involved in the operation?

\_\_\_18. Are automatic shutdown devices installed on all equipment involved in welding process?

\_\_\_19. Does a Platform ESD shut down the welding operation?

\_\_\_20. Are ASH and O<sub>2</sub> sensors calibrated prior to start-up?

\_\_\_21. Verify that the batteries / battery charger box is not mounted either inside or directly outside the enclosure.

\_\_\_22. Are battery charging operations conducted in an un-classified area?

\_\_\_23. Is the battery charger located at least 10' from the batteries at all times?

\_\_\_24. Does the control console operator have the ability to shut down the welding and burning operation without shutting down the blower system?

\_\_\_25. Does the hot work permit or some other operational procedures contain a requirement to visually inspect for evidence of potential leak paths at least every 4 hours? This document should also require that prior to resuming operations; all potential leak paths shall be repaired immediately prior to resuming operations.

\_\_\_26. Does the PWE have two marked emergency exits?

\_\_\_27. Will the PWE be installed on a H<sub>2</sub>S facility?

- \_\_\_a. Are SCBA packs available inside the PWE?
- \_\_\_b. Does H<sub>2</sub>S detection on facility shut-down operations inside PWE?
- \_\_\_c. Is incoming and outgoing air monitored to detect H<sub>2</sub>S?

\_\_\_\_d. Are separate lights/sounds installed in PWE to alarm personnel if H2S is detected?

\_\_\_\_e. Are drills conducted so personnel understand emergency procedures?

Note: At no time shall any electronic device utilized by the PWE system be installed a Class 1, Division 1 location. The class/division determination inside the PWE shall be made based on the current BOEMRE approved area classification drawing without consideration of the air changes provided by the blower system.

***Note PWE system shall ensure that the blower system is not configured in such a manner that air is permitted to flow directly from the air inlet to the air outlet (short-circuited) without removing air previously within the PWE.***

The submittal to utilize a PWE has been reviewed and found to be acceptable.		
Reviewing Engineer: _____		Date: _____
On-Site Platform Verification and Inspection:		Corrected
Problems Noted	a)	
	b)	
	c)	
	d)	
Reviewing Engineer/Inspector: _____		Date: _____

Revision 1 (January 10, 2011)