Purpose

The purpose of this document is to establish minimum requirements and guidance for cleaning cement blenders on P&A projects.

The objective of this procedure is to ensure all required precautions are implemented prior to cleaning cement blenders.

Responsibilities

The Person-in-Charge, Supervisors and/or Consultant are responsible for:

- Ensuring the guidelines in this document are followed.
- Reviewing requirements of this document with personnel under their direction.

The Employees or Contractors must:

- Following the requirements and guidelines of this procedure.

Requirements

Hold JSA for entering / cleaning cement blender.

Proper PPE shall be worn while working. PPE includes but is not limited to:

- Hard Hat
- Hearing Protection, if in a high noise area.
- Splash Goggles and Face Shield
- Appropriate Gloves
- Flame Retardant Clothing (FRC)
- Full body harness (must be utilized during entry for rescue purposes)
- Follow PPE requirements on MSDS for any cleaning products; cement removers, etc.
  being used.
- Dust Mask, if generating dust by buffing chipping with power tools

By definition, the cement blender is considered a confined space. This space may be reclassified as a non-permitted required confined space utilizing the Confined Space Entry Procedures located in Safe Work Practices Section D, Chapter 2. This will be done utilizing the Non-Permit Required Confined Space Hazard Assessment Form (Refer to Section D, Chapter 2 Part B).

In order for a permit-required confined space to be reclassified to a non-permit required confined space, testing and inspection of the permit-required confined space must pose no actual or potential atmospheric hazards and if all other hazards within the space are eliminated without entry into the space. The permit-required confined space may be reclassified as a non-permit required confined space for as long as the atmospheric hazards remain eliminated.
An acceptable O2 reading must be between 19.5 – 23.5 and the LEL reading must be less than 10 %. While a worker is inside the blender, monitoring of O2 and LEL will be continuous, recorded at regular intervals (at minimum once per hour) and readings are to be documented on the Non-Permit Confined Space Reclassification form. Should O2 or LEL levels changes, work shall be immediately stopped, personnel shall exit the space and work will not resume until hazards have been eliminated and retesting of the atmosphere meets acceptable levels.

If hot work is necessary, obtain hot work permit and follow the Hot Work Safe Work Practice (Section D, Chapter 15).

Utilize the appropriate lock out / tag out process prior to commencing work as described in Safe Work Practice (Section D, Chapter 5).

**General Guidelines**

- Hydraulic hoses need to be bled to zero, disconnected from power pack and locked out to prevent them from being reconnected to power source while personnel are inside blender.

- Water or other fluid line(s) will be closed; pressure bled off, and locked out to prevent accidental flow.

- A rescue plan must be generated in addition to the JSA.

- Identify a non-permit space attendant and entry person.

- Inspect equipment to be used for integrity and working condition.

- Non-permit attendant will not leave his post while a worker is inside the blender. The attendant shall not perform any other activities during the blender entry and cleaning process.

**Cleaning the Blender**

- After conducting safety meeting and JSA, inspect blender to make sure it is safe to enter by verifying O2 and LEL levels are suitable for safe entry. If O2 is not within safe limits and/or LEL is above 10%, work shall not commence. The space will be considered a permitted space which may require use of self-contained breathing apparatus (SCBA) and proper ventilation of the space.

Note: It is the policy of Fieldwood Energy that no Fieldwood employee will be allowed to enter a “Permit-required” Confined Space. Employees may enter areas that have been reclassified as a “Non-Permit-required” Confined Space only.
• Ensure hydraulic hoses are bled to zero, disconnected from power pack and locked out to prevent them from being reconnected to power source while personnel are inside blender.

• Water or other fluid line(s) will be closed; pressure bled off and locked out to prevent accidental flow.

• Once all safety checks, JSAs and rescue plan are in place, personnel may enter blender and begin work.

• Start by removing any heavy buildup of cement with chipping hammers or pneumatic chippers or needle guns. (Ensure air hoses have whip checks installed to prevent accidental whipping should the hoses rupture or connection to the tool fail).

  Note: Always don impact goggles and face shield when using the above tools. The space attendant must have safety glasses and face shield as well to protect against deflective materials.

• The use of cement remover chemicals are “not allowed” on offshore platform sites. Chemical usage is only allowed at the onshore facility and must follow requirements for PPE on the SDS sheet, confined space entry procedures, etc.

• All excess material or debris will be removed utilizing buckets.

• Once cleaning is complete, ensure bottom manifold, valves, etc. are clear and free of debris. The use of water may be necessary to flush out debris in which the attendant must coordinate with another worker to man the water valve (this may require the use of radios for communication purposes). Removal of the manifold may be necessary if obstruction does not clear with water.

• Following completion of the task, reconnect hydraulic hoses to power pack.

**NOTE:** Cleaning a blender with cement remover (abrasive liquids) will only be done onshore under the controls of a Confined Space Permit and product SDS sheet.