



Industrial Performance Services



Industrial Tubular Catalyst Services



INERT ENTRY PLATFORM SAFETY PROCEDURE

V:2023.1

Inert Entry Platform Safety Procedure

January 2023

1. Safety Meeting (First of both shifts)
 - Client:** Designated Job Representative
Safety Dept.
Operations Dept.
Maintenance Dept.
Nitrogen Supply Representative
Emergency Response/High Angle Rescue Team Leader
 - Contractor:** Job Supervisor
Full Crew
2. Toolbox Safety Meeting.
3. Apply for and receive “Safe Work Permits”.
4. Test and verify all breathing air supplies for content.
 - a. Tag all approved breathing air cylinders for safe use, or
 - b. Remove non-approved breathing air cylinders from the job site. Empty, and immediately return emptied cylinders to vendor.
5. Immediately upon receipt of “Safe Work Permit”:
 - a. IPS★ITCS assumes control of nitrogen supply flow.
 - b. Access to vessel platforms is to be barricaded at ground level.
 - c. Signage applied to barricade warning of danger on vessel.
 - d. No one shall be allowed access to vessel without IPS★ITCS supervisor permission and an IPS★ITCS attendant as escort (i.e., no one will access the vessel alone until vessel has been released back to the client for startup or other activities).
 - e. All personnel accessing the platform shall be required to have on a full body fall protection harness and safety lanyard.
6. Stage LSS (Life Support System) equipment at ground level for rig-up.
7. Reduce flow of nitrogen into reactor to 300/500 scfm. Dependent on size and allow time for flow through vessel to stabilize.
8. IPS★ITCS two-person crew can now ascend reactor to platform.
 - a. Lead person to have personal oxygen monitor on and have radio communication to the ground.
 - b. Both persons to have supplied air respirator attached to escape bottle on person and ready for use.

Note: *When within ten feet of reaching platform, lead man shall slow approach to ensure that oxygen analyzer has time to read atmosphere. If, at any time while ascending, the analyzer alarm sounds, both persons shall immediately return to ground and access procedure shall be reconsidered based on reason for alarm.*

9. Upon reaching platform:
 - a. Lead person shall move to the up-wind side of the platform to be used for lifting, carefully monitoring atmosphere in progress, and determine that the platform area is safe.
 - b. Second person shall now access the platform.

Note: *If during this time the analyzer sounds an alarm, both persons shall immediately don their escape respirator and immediately descend off the vessel platform.*

10. Personnel shall first rig-up one oxygen analyzer for monitoring at the platform access.
11. A second analyzer shall be rigged to read the vessel atmosphere so that the nitrogen flow can be adjusted to fully protect the vessel during completion of rig-up. The vessel atmosphere shall be checked, and the nitrogen flow adjusted as required to maintain zero oxygen content.
12. Establish a “Non-Entry Zone” around the manway (four feet if practical with a minimum of two feet with approval).
13. When both of the above have been accomplished and verified, additional crew members shall access the platform to begin LSS rig-up.
14. During rig-up one person shall be designated as “Safety Watch” who shall:
 - a. Be stationed to observe all personnel and the vessel manway while rig up is being completed with the purpose of warning all persons away from non-entry area around the manway as no work is required in this area during rig-up.
 - b. Have no other duties and shall not participate in any work.
 - c. Be in radio contact with ground personnel in the event of an emergency and.
 - d. Shall be the final authority on the platform until all rigging up is complete and all safety precautions have been completed.

Note: *the IPS★ITCS Top Supervisor and/or Console Supervisor shall then assume these duties.*

15. Rig-up shall be as follows:
 - a. Set up monitoring consoles and airline respirator supply system.
 - b. Attach umbilical and airlines to consoles and supply system.
 - c. Establish airflow to consoles.
 - d. Stage ancillary emergency rescue equipment (i.e., Stokes stretcher, oxygen resuscitator, first aid kit, etc.) on vessel platform and ensure working condition.
 - e. Attach LSS helmets and airline respirators to system and perform flow and communications checks.
 - f. Establish LSS communications to ground level and
 - g. Test out all monitoring equipment on platform.
16. LSS personnel shall now don supplied air respiratory protection along with fall protection to place rescue tripod and hoist systems in place.
17. When all rig-up has been completed:
 - a. The LSS system and airline supply system shall be secured, and
 - b. All personnel except “Safety Watch, Console Supervisor, and Top Supervisor” shall leave the platform.

18. These personnel shall perform a final visual inspection of the platform to ensure all is in compliance. Then exit the platform and secure the vessel access point.

Note: *All safety conditions established shall remain in effect as long as the reactor is under an inert purge condition unless otherwise specified.*

19. At this time, the IPS★ITCS Job Supervisor shall request the client for vessel entry permit.

Note: *While the reactor is under an inert purge, the manway guarding device shall only be removed:*

- a. *When work is to be performed in the vessel,*
- b. *By personnel who are suited up with supplied air, and secure.*

Note: *While the reactor is under an inert purge, the manway guarding device shall be replaced:*

- a. *Immediately after the last person has exited the reactor.*
- b. *By personnel who are suited up with supplied air and secured.*

Note: *Any person (other than the “working LSS crew”) accessing the non-entry zone shall wear supplied air, be required to tie off to a suitable positioning anchor. The working LSS crew inside the containment area shall be tied as follows:*

- a. *Entrants shall be secured to the tripod hoisting system.*
- b. *Top safety shall be secured while working in the containment area. By use of a self-retracting fall arrest (such as or equal to the Miller Minimize Fall Limiter) to a secure anchor point (other than the tripod if possible) that allows the freedom of movement required.*

Note: *The non-entry zone in place around the tripod and the manway shall:*

- a. *Allow adequate room for personnel to perform work safely, and to operate the hoisting mechanism.*
- b. *Have signage which warns “DO NOT ENTER WITHOUT”:*
 1. *Supplied airline respiratory protection, and*
 2. *Fall protection.*

20. Upon receipt of the confined space entry permit, all work shall be performed in accordance with:
 - a. Above platform safety requirements.
 - b. The requirements of the entry permit.
 - c. IPS★ITCS Inert Entry Operations Procedures.

Competency Assessment

| No. | Questionnaire | C/NYC |
|-----|---------------|-------|
| Q1 | | |
| A1 | | |
| Q2 | | |
| A2 | | |
| Q3 | | |
| A3 | | |
| Q4 | | |
| A4 | | |
| Q5 | | |
| A5 | | |

| Enclosed Attachments | |
|---------------------------------|-------------------------------------|
| Risk Assessment | <input checked="" type="checkbox"/> |
| Environmental Aspect and Impact | <input checked="" type="checkbox"/> |
| Training and Competency | <input checked="" type="checkbox"/> |
| Measure and Evaluation Tools | <input checked="" type="checkbox"/> |

Competency Checklist

To be filled out by Trainer and signed by Employee, Assessor and Supervisor before being returned to the HSEQT Manager for recording purposes.

| Procedure | Competency | Date | Competent YES / NO | Employee Signature |
|-----------|------------|------|-----------------------|-----------------------|
| | | | | |
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| | | | | |
| | | | | |

(Please tick appropriate box)

This employee is competent in performing the job.

| |
|--|
| |
| |

This employee has not attained the competency level.

*

* *If the employee has not attained all competency levels, the General Manager must assess the action to be taken, provide an extension of training or alternative action as listed below.*

Alternate action to be taken: _____

| | | | | |
|-----------|-------------------|--|-------|--|
| Signed By | Employee: | | Date: | |
| | Trainer: | | Date: | |
| | Assessor: | | Date: | |
| | Regional Manager: | | Date: | |

Environmental Aspects and Impacts

Identified Environmental Aspects and Impacts

The following table is a summary of the likely environmental aspects and impacts that may be identified during site inspections. The significance of each impact needs to be assessed using the Risk Assessment Model.

| Activity | Aspect | Impact |
|--|---|--|
| Purchasing & Administrative Work | Consumption of goods | Conservation of natural resources |
| | Consumption of energy (eg. Electrical equipment and facilities) | Release of greenhouse gases and atmospheric pollution; Consumption of natural resources; Habitat loss |
| | Generation of waste (eg. Paper) | Consumption of space for waste disposal; Habitat loss |
| Climate Control | Consumption of energy | Release of greenhouse gases and atmospheric pollution; Consumption of natural resources; Habitat loss |
| | Generation of noise | Disturbance to community; Habitat loss |
| Cleaning of – offices / vehicles | Storage, use and release of chemicals | Contamination of air, water or soil; Risk to human health |
| Transport (Fleet vehicles / staff travel) | Consumption of energy | Release of greenhouse gases and atmospheric pollution; Consumption of natural resources; Loss of habitat at all stages of generation; Light pollution |
| | Consumption of goods (eg. Oil) | Consumption of natural resources; Generation of waste; Habitat loss; Biodiversity impacts |
| | Generation of waste (eg. Oil) | Consumption of space for waste disposal; Potential contamination of water or soil; Habitat loss |
| | Exhaust emission | Release of greenhouse gases and atmospheric pollution |
| | Use of dangerous goods (eg. Batteries) | Potential contamination of air, water or soil; Risk to human health |
| | Generation of noise | Disturbance to community; Habitat degradation |
| Operations | | |
| | | |
| | | |

Sample only.
To be filled in

Risk Assessment

Risk Assessment // insert name here

| <p>Step No: Logical sequence</p> | <p>Sequence of Basic Job Steps documented in the Procedure, Work Instruction and project plans. Break down Job into steps.</p> <p>Each step should be logical and accomplish a major task.</p> | <p>Potential Safety & Environmental Hazards/Impacts at the site of the Job</p> <p>Identify the actual and potential health and safety hazards and the environmental impacts associated with each step of the job.</p> | <p>Risk Rating</p> <p>Refer to the risk matrix or HSEQT.PRO.Risk Mgt</p> | <p>Recommended Corrective Action or Procedure</p> <p><i>Determine the corrective actions necessary to reduce the risk to as low as reasonably practical (ALARP) refer to HSEQ.PRO.Risk Mgt. The risk must be reduced or controlled to ALARP before work commences.</i></p> <p>Document who is responsible for implementing the controls to manage each hazard identified.</p> | <p>Risk Rating refer to the risk matrix or HSEQT.PRO.Risk Mgt</p> |
|--------------------------------------|--|---|--|---|---|
| 1. | | | | | |
| 2. | | | | | |
| 3. | | | | | |
| 4. | | | | | |
| 5. | | | | | |

Audit



| Process: insert// Procedure: Insert // | | Date: | | Audited by : | |
|---|----------|-------------------------|----------|--|----------------------------|
| | | Location of Audit: | | Area Mgr/Supervisor: | |
| Item | Question | Evidence Sited | Comments | | Conformance Score 0,3,5 |
| 1. | | | | | |
| 2. | | | | | |
| 3. | | | | | |
| 4. | | | | | |
| 5. | | | | | |
| 6. | | | | | |
| 7. | | | | | |
| AUDITOR'S SIGNATURE: | | CONFORMANCE SCORE: / 25 | | 0 – Non-Conformance | |
| SAFETY REP'S SIGNATURE: | | CONFORMANCE %: | | 3 – Continuous Improvement Opportunity | |
| | | | | 5 – Total Conformance | |