| | | |
|---|---|---|
| **PTW CHECKLIST - NO. 16** | **Title: Blasting & Painting**<br><br>**Including Use of Portable Diesel & IC Engines, Use of Non-Certified or Non-IS Electrical Equipment & Steel Wire Brushes & Needle Guns where applicable** | |
| **Owner:** Permit System Manager | | |
| **Approver:** Permit System Manager | **Max Validity Period: 5 years** | |
| **Permit No.:** | **Date:** | |

| Latest Rev | Date | Details | Authorised By |
|---|---|---|---|
| 5.2 | Jan 2024 | Add "No" check box to 7.1 | T Lindsay |
| 6.0 | June 2024 | Added new link to HRAs, Updated guidance on garnet containment and cleanup (5,15,18,19,20) | T Lindsay |
| 7.0 | July 2025 | Sect 1.2 Added "gaskets (e.g. Aramid / paper and FIK gaskets (used in cathodic protection))"<br>New Section 1.3 inserted. Section 9 update to reflect change of process. | T Lindsay |

Other Checklists That May Be Relevant: 50, 36

For associated health information go to NZ HSSE Health Risk Assessment

## Work under this permit will include the following operations (tick as applicable):

☐ **SECTION 1: Sandblasting, Water blasting, Needle Gunning, Steel Wire Brushes, Spray Painting – to be completed for all Permits.**

☐ **SECTION 2: Operation of Portable Diesel & IC Engine – to be completed if applicable.**

☐ **SECTION 3: Use of Non-Certified or Non-IS Electrical Equipment in Hazardous Area – to be completed if applicable.**

**NOTE – Section 2 and 3 of this checklist are in addition to the checks required in Section 1 that applies to all parts of this permit activity.**

## SECTION 1:

**PRIOR TO PERMIT ISSUE:**

| | | Tick when done Y | N | NA |
|---|---|---|---|---|
| 1. | The NZ HSSE Health Risk Assessment has been reviewed for relevant health hazards and controls included in the JHA. | ☐ | | |
| 2. | All potentially affected instrumentation, safety trip devices, detectors, valves, pumps, motors, air intakes and gaskets (e.g. Aramid / paper and FIK gaskets (used in cathodic protection)) are to be protected from impact, paint spray, water, stray grit and debris. | ☐ | | ☐ |
| 3 | When blasting any pressurised in service equipment containing hazardous substances (i.e. flammable, toxic or ecotoxic) an emergency response plan shall be included in the JHA detailing actions to be taken in the case of breach of containment. | ☐ | | ☐ |
| 4. | Consider need to isolate or inhibit fire and gas detection and the implications of doing so. If required ensure checklist 50 – *Working On or Isolation of Emergency or Safety Systems* has been completed. | ☐ | | |
| 5. | The work team is aware of and understands the contents of the SDS for the material being used. | ☐ | | |

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| **Permit No.:** | **Date:** |

| | | Tick when done Y | N | NA |
|---|---|---|---|---|
| 6.1 | Consideration has been given to building a Painting and Blasting Temporary Habitat Encloser as per checklist 36 and STA-01.47 | | | |
| 6.2 | If a Habitat Enclosure is not practicable, suitable containment has been arranged to put in place at the work site. | | | |
| 7. | If paint is known to contain hazardous material i.e. lead, precautions are in place for containing and disposal of the toxic material (as per SDS). | | | |
| 8. | Prior to removal or work on any wrap material consult the site Asbestos Management Plan (M-Files) or Site Asbestos Register.<br>If the presence of asbestos is suspected, all work shall cease, and a management plan confirmed with the HSE Dept. | | | |
| 9.1 | Is the line/vessel **Hazardous/SCE AND Pressurised**?<br>*The facility inspector should liaise with the Inspection Engineer for the hazard level & SCE status, and operations for the isolation status & pressure.* | | | |

**SCE** (Y/N): …….. **Hazard Level** (AS 4343):……

**Isolated** (Y/N): …… **Pressure** (kPa):…….

If **Yes** Fill out step 9.2 below and state why the line is not isolated and depressured for the activity. The preferred option is to isolate and de-pressure such equipment before abrasive blasting.

**Reason:** _____
_____
_____

If **No** Continue to step 10

9.2 For **all levels of blasting** ("light" for further inspection and "severe" for painting) **AND** for **needle gunning** and **wire buffing** and **all forms of invasive blasting** (HP water, grit, garnet, walnut shell, ice etc.), all locations covered by this permit **must be**:

1. **Shown on a marked-up P&ID or Isometric drawing** and appended to this checklist.
2. **Assessed** by the **Site Facility Inspector prior** to any disturbance to the surface of the equipment by the coatings team, in accordance with 640475: Construction – Painting and Coating, Section 3.2.7 “Safety when Blasting Pressurised Equipment”.
3. The facility Inspector must complete the below table.
4. The inspection engineer must verify the results and sign the approval to blast.
5. **If wall loss exceeds 2.5mm, is expected to exceed 2.5mm or there is any uncertainty about the integrity of the equipment, do not proceed with defect excavation and consult with the Inspection Engineer for further instruction.**

| | Tick when done Y | N | NA |
|---|---|---|---|
| Is Radiography to be used to determine wall thickness? | | | |

Number of radiography angles required by Inspection Engineer: ……

| | | |
|---|---|---|
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| **Permit No.:** | **Date:** | |

| **Location Number (to be marked on drawing)** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |
|---|---|---|---|---|---|---|---|---|---|---|
| Pipe Diameter (if applicable) | | | | | | | | | | |
| Nominal Wall Thickness (mm) | | | | | | | | | | |
| Wall Thickness measured using UT of sound material (mm) | | | | | | | | | | |
| Maximum External Wall Loss (mm) | | | | | | | | | | |
| Maximum Internal Wall Loss (mm) | | | | | | | | | | |
| Remaining Wall Thickness: Estimated or Measured (mm) | | | | | | | | | | |
| Length of wall loss (Axial) (mm) | | | | | | | | | | |
| Width of wall loss (Circumferential) (mm) | | | | | | | | | | |
| Wall loss verified with additional NDT? | | | | | | | | | | |
| Safe to blast? (Y/N) | | | | | | | | | | |

Facility Inspector: _____ Signed: _____ Date: _____

Inspection Engineer: _____ Signed: _____ Date: _____

| | | |
|---|---|---|
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**PRIOR TO COMMENCING TASK:**

| | | Tick when done Y | N | NA |
|---|---|---|---|---|
| 10. | Has equipment, including hoses, been checked thoroughly and all components are certified, in good condition and operating correctly. | ☐ | | |
| 11. | Secondary retention wire between air tool and air hose is in place.<br>**Note**: The use of inline swivels attached to pneumatic tools is now prohibited. | ☐ | | ☐ |
| 12. | Are the air operated tools fitted with the necessary lubricator/water separator to prevent freezing or other damage. | ☐ | | ☐ |
| 13. | Whip checks in place across all flexible hose connections. | ☐ | | ☐ |
| 14. | All equipment has been checked thoroughly, all components in good order and the 'dead mans' handle is functioning. | ☐ | | |
| 15. | External metal parts of the cleaning, blasting and spraying equipment are bonded together and unit electrically bonded to earth. Continuity test results have been recorded on permit (<10Ω). | ☐ | | |
| 16. | Barriers and signs have been erected to prohibit passage of other personnel within the work area? | ☐ | | |
| 17.1 | Containment has been put in place as arranged prior to permit issue to contain grit, debris and contaminants at the work site. | ☐ | | ☐ |
| 17.2 | Containment, covers, or filter cloth prevent grit, debris and contaminants entering site drains. | ☐ | | ☐ |
| 18. | If using air pressure to assist cleanup of sand and grit, a deadman device shall be fitted or observer placed at isolation valve. | ☐ | | ☐ |
| 19. | List any additional eye protection and/or respiratory protection as agreed including for cleanup of garnet. | ☐ | | |

_____

_____

_____

_____

**NOTE: The MPA water blaster or header shall NOT be used for hydrotesting process equipment, nor be connected to the process in any way.**

**DURING THE TASK:**

| | | Y | N | NA |
|---|---|---|---|---|
| 20. | Grit and debris are regularly cleaned up in the work area. | ☐ | | ☐ |
| 21.1 | Area around the work site is monitored for drift of grit, debris, and contaminants. | ☐ | | |
| 21.2 | If grit, debris, or contaminants drift outside the work site, work shall stop while the area is cleaned and containment modified to prevent further occurrence. | ☐ | | |

**ON COMPLETION OF TASK:**

| | Tick when done | | |
|---|---|---|---|
| | Y | N | NA |
| 22. Grit, debris, and contaminants removed from the work area. | | | |

**Note:** Used garnet must not be disposed of in general waste bins as it is classified as hazardous waste. It must be stored in bags in an approved area and disposal Shall follow the OMV process for disposal of hazardous waste.

## SECTION 2:

**The use of Non Zone Rated Engines in Zone 2 Area will be allowed with the following controls in place; Initial and continuous gas testing, equipment is attended at all times while in operation.**

**PRIOR TO COMMENCING TASK:**

| | Zone 2 | Non Haz |
|---|---|---|
| 23. Indicate the area/zone the equipment is to be located in. | | |

**NOTE:** This should be as far from the process as practical,

24. Dedicated attendant name: _____
When engine is operating in Zone2 areas.

| | Y | N | NA |
|---|---|---|---|
| 25. A portable dry powder extinguisher is present at the engine site. | | | |
| 26. Equipment has a current WOF/Certificate of Fitness as required. | | | |

## SECTION 3:

**PREPARATION:**

| | Tick when done | | |
|---|---|---|---|
| | Y | N | NA |
| 27. All electrical equipment checked and found to be in good condition with a current test tag. | | | |
| 28. An ELCB or RCD must be used. | | | |
| 29. Cables run through a hazardous area are fitted with an orange, hazardous area extension lead tag. | | | |

**Note:** these tags must be fitted by a registered electrician.