Job Hazard Analysis

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| Task/Equipment:  | Readying Winter Boiler for Annual Inspection  |
| Department:  | Powerhouse |
| Analyzed By:  | Bryana Borders & Bill Partin |
| Date:  | 4/12/19 |

**Personal Protective Equipment Required:**

**Hard Hat**

**Heavy Leather Gloves**

**Rubber boots**

**Trainings Required\*/Recommended:**

Proper ladder use\*, proper chain fall use\*

**Equipment/Tools/Chemicals Required for the Job:**

Rotary Impact Tool

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| **Steps** | **Hazards Present** | **Safety Measures and Controls** |
| 1. Turn off boiler at panel
 | No hazards present | N/A |
| 1. Close and secure feed water globe valve and tag as closed
 |  No hazards present  | N/A |
| 1. Open main power disconnect and place lock-out device on handle
 |  No hazards present  | N/A |
| 1. Close main boiler gas cock and leave handle in the horizontal position
 |  No hazards present  | N/A |
| 1. Allow boiler to cool until pressure falls to 3 psi, then climb onto the boiler and open up steam drum vent
 | Ladder fall | Follow ladder safety protocol  |
| 1. Close non-return and OY&Y stop valves on top of boiler
 |  No hazards present  | N/A |
| 1. Disable chemical feed pump if applicable
 |  No hazards present  | N/A |
| 1. Close surface blowdown stop valve closest to boiler and tag as closed
 |  No hazards present  | N/A |
| 1. Allow boiler to further cool until water temperature falls below 100 °F
 |  No hazards present  | N/A |
| 1. Open bottom blowdown valves and drain the boiler completely
 |  No hazards present  | N/A |
| 1. Remove manway covers and discard old gaskets
 | Finger pinch | Wear heavy leather gloves |
| 1. Remove all cross-tees and inspection plugs
 |  No hazards present  | N/A |
| 1. Rod out all water and steam piping associated with plus and tees, pressure and level safeties
 |  No hazards present  | N/A |
| 1. Remove water level safety float and place to the side
 |  No hazards present  | N/A |
| 1. Clean and remove any loose scale or debris in the mud drum
 |  No hazards present  | N/A |
| 1. Flush tubes wit power hose if needed
 | Wet floor can cause a slip and fall accident | Wear rubber boots |
| 1. Reclose bottom blowdown valves and attach a lock-out device over valves
 |  No hazards present  | N/A |
| 1. Open fire-side access door and visually inspect furnace refractory and tubes
 |  No hazards present  | N/A |
| 1. Contact city of Detroit boiler inspector for inspection appointment
 |  No hazards present  | N/A |

**Additional Information:**

Ear Protection

Protection Suit

Fall Protection Harness

High Vis Vest

Splash Goggles

Latex Gloves

Dust Mask

Respirator

Face Shield

Safety Glasses