Job Hazard Analysis

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| Task/Equipment: | **Descaling** **Tower Nozzles** |
| Department: | Powerhouse |
| Analyzed By: | Bill Partin & Bryana Borders |
| Date: | 4/12/19 |

**Personal Protective Equipment Required:**

**Rubber Boots**

**Hard Hat**

**Light Leather Gloves**

**Trainings Required\*/Recommended:**

Ladder safety\*, confined spaces training\*, lock out tag out training\*

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

Hand tools, screw driver, chipping tool

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| **Steps** | **Hazards Present** | **Safety Measures and Controls** |
| 1. Turn off tower controls at main control center MCC panel using lock out tag out protocol
 | If tower controls are not turned off and locked out/tagged out it could cause serious injury in steps 4-7 | Second person must verify correct disconnects are locked out and tagged out  |
| 1. Open main power disconnects at tower and secure using lock out protocol
 |  If power is not disconnected and locked out/tagged out, it may result in serious injury in steps 4-7  |  Second person must verify correct disconnects are locked out and tagged out  |
| 1. **Climb tower ladder, open entrance doors and enter tower confined space**
 | **Fall from ladder** | **Ladder Safety Training** |
| 1. **Remove upper horizontal tower fill to expose nozzles**
 | **Decapitation, severe head trauma due to fans starting unexpectedly**  | **Lock out and tag out fan power disconnect, post second person to be sure no one enables tower fans , use confined spaces protocol**  |
| 1. **Start condenser pumps to provide water flow**
 |  **Decapitation, severe head trauma due to fans starting unexpectedly**  |  **Lock out and tag out fan power disconnect, post second person to be sure no one enables tower fans**  |
| 1. **Use chipping tool to loosen and free scale from nozzles**
 |  **Decapitation, severe head trauma due to fans starting unexpectedly; cuts from chipping tool**  |  **Lock out and tag out fan power disconnect, post second person to be sure no one enables tower fans; Use leather gloves to prevent cuts**  |
| 1. **Replace upper fill**
 |  **Decapitation, severe head trauma due to fans starting unexpectedly**  |  **Lock out and tag out fan power disconnect, post second person to be sure no one enables tower fans , use confined spaces protocol**  |
| 1. **Exit confined space and close access doors and secure**
 |  **Fall from ladder**  |  **Ladder Safety Training**  |

**Additional Information:**

* Two-person Task

Lab Coat

Protection Suit

Fall Protection Harness

High Vis Vest

Splash Goggles

Dust Mask

Respirator

Hard Hat

Face Shield

Safety Glasses

Ear Protection