**PURPOSE:** To describe the procedures for maintenance of Screens Safely

**SCOPE:** Met Coke Division

Reference: Screen manual

PPE's to be used:

Helmet, Safety shoes, safety hand gloves, Safety belt, welding & cutting goggles. Dust mask.

**Safety precautions to be taken:**

 Screens to be kept empty.

 Shutdown to be taken of screen with LOTO

 Ensure use of certified chain block, welding machines, cutting sets, grinders.

 Ensure that after completion of job and before taking trial all the guards provided are fitted back.

1. **PERFORMANCE INDICATORS:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sr. No.** | **Measure** | **Unit** | **Frequency** | **Acceptance Criteria** | **Responsibility** |
| **Quality** | | | | | |
| 1 |  |  |  |  |  |
| **Environment** | | | | | |
| 1 | Scrap generation - Land contamination, Resource Depletion |  |  |  | Engineer In charge & contract workmen on job |
| 2 | Fumes- Air pollution |  |  |  |
| 3 | Used rubber Parts, Grease oil spillage - Land contamination |  |  |  |
| **Safety** | | | | | |
| 1 | Mechanical Hazard – Trapping, Impact, Falling |  |  |  | Engineer In charge & contract workmen on job |
| 2 | Electrical -shock |  |  |  |
| 3 | Chemical hazard – DUST, TEMPERATURE |  |  |  |
| 4 | **Human behaviours**- Improper housekeeping, Non-use of PPE, Alcoholism, Height phobia |  |  |  |

1. **PROCEDURE:**

**A screen cloth changing**

* Bring and keep the following materials ready at site.

Required sizes of screen cloth, J bolts, Tension bolts, Rubber u channel,

Rubber washer, Plate washer

* Remove the side tension bolts.
* Remove J bolts
* Remove the old screen cloth
* Inspect I beam and note the condition.
* Change old rubber u channel with screen cloth.
* Ensure the gap between two screen cloths is not more than its aperture.
* Fix the side tension plates.
* Side tension bolts to be checked on ground level before use.
* Fix the side tension bolts and tighten with new nylock nut
* Use torque wrench for tightening, using torque of 41.3 Kg m.
* Fix J bolts first with rubber washer, on top of it with plate washer and small washer and then tighten the nut.
* Remove all the scrap and old screen cloths from the area.
* Release the electrical shutdown.
* Take trial on no load and afterwards on load.

**B TUBE LAGGING**

* Remove top deck 2nd & 3rd Screen cloth
* Remove worn out Tube rubber
* Grinder (paper wheel) insulation to be checked.
* Surface to be Cleaned & solution to be applied
* New rubber to be applied
* All worn out rubber to be shifted to rubber scrap bin
* Removed 2nd 3rd cloth to be fitted back.
* Release Shutdown & Take Trial

**Coil changing**

* Before draining ensure that tube is cooled down
* Remove the plug provided for draining
* Old oil to be collected in small barrel using hose pipe and funnel
* Fix the drain plug firmly
* Pour recommended oil with funnel (EP 140) from the opening provided on the outside.
* Oil to be filled till level of the pipe provided below
* Ensure top plug is with venting arrangement (clean the vent thoroughly)
* Waste oil to be collected and shifted to stores waste bay.

**D. V- belt changing**

* Loosen the motor foundation bolts & shift the motor for loosening the belts with jack bolts
* Remove all three worn out or damaged belts
* Replace new belts & tension the belt
* Align the belt & tighten the motor foundation bolts.
* Clear the shutdown, take trial
* Shift the removed belts to designated area / rubber scrap bin.

**E. Bearing checking/changing**

* Drain the oil
* Remove the v belts, pulley, and counterweights.
* Note the position of counterweight
* Remove the bearing cover
* Check the clearance of bearing using feeler gauge. Clearance to be less than or equal to .05mm
* If clearance is more, bearing to be replaced along with housing
* Shift the removed bearing if any to bearing scrap bin.
* Refit the bearing cover, counterweights, pulleys and v belts
* Ensure that counterweights are fitted in same position as before.
* Provide the oil
* Clear the shutdown, take trial

**3. Safety precautions:**

* Take shutdown permit before attending any electrically operated units.
* Check availability of valid DCP fire extinguishers, if not available then inform shift in charge.
* Check and ensure safety of man and equipment before starting operations.
* Check no unauthorized personnel are working in and around the compacting box or above compressor and hydraulic room.
* Check all lights/electrical appliances, Ensure proper illumination at compacting station during dark hours. In case of any issues the same should be highlighted to the Production shift in charge.
* Ensure Use of all relevant PPEs. (Safety shoes, safety helmet, Dust mask, safety goggles)

In case of BF gas leakage is detected, immediately vacate the area, along with persons working nearby and inform Production shift I/C of the same.

1. **REFERENCES:**

**5. RECORDS:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sr. No.** | **Record No.** | **Record Title** | **Maintained by** | **Soft/Hard form** | **Retention Time** |
| 1. |  |  |  |  |  |
| 2. |  |  |  |  |  |
| 3. |  |  |  |  |  |
| 4. |  |  |  |  |  |
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| **Prepared By:**  Head Mechanical Maintenance, Battery 1- MCD | **Reviewed & Issued By:**  Management Representative | **Approved By:**  Head Mechanical Maintenance MCD |
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