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Objective Maintenance of Air compressors
Scope Plant
Responsibility Engineer in charge & workmen at job
PPEs to be used Helmet, Safety shoes, hand gloves, Ear plugs, Dust mask

Aspect-Impact

Oil spillage Land contamination, Resource Depletion
 Used oil Land contamination, generation of hazardous waste
 Used filter, hoses Resource depletion, generation of hazardous waste
 Oil traced waste generation Generation of hazardous waste
 Noise Work environment

Hazards Identified

Physical hazard Noise, Temperature, Dust, Water pressure
 Mechanical hazard Trapping between objects, Entanglement, Slip and fall, fall of object
 Electrical Hazard Electrocution
 Human behavior Improper housekeeping, Non use of PPEs, Alcoholism, Overconfidence, Negligence

Safety precautions:


- Do not Work on Running Equipment's
- Avoid using mobile phone while working.
- Use appropriate tools required for the job.
- After job always do proper housekeeping.
- Always prevent body from line of action of force.
- Perform proper communication verbal and non-verbal as required.

Procedure

A) Cleaning Of Regulating System

- Take work permit from concerned shift incharge as per work permit procedure
- Take electrical shut down of the system.
- Remove the side panels of the system.
- Remove end connections of the copper tube.
- Clean the tube with compressed air.
- Reconnect the tube.
- Follow the above instructions for all the tubes.
- Refit the panels.
- Release electrical shut down.

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- Take trial for any leakages.

B) Cleaning Of Valves Or Seal Kit Changing

➤ Unloader Valve

- Take electrical shutdown of the system.
- Remove the necessary panels to do the job.
- Remove the copper tube connection of the valve.
- Remove the valve mounting bolts.
- Dismantle the valve by unscrewing the bolts. (Take precaution as the valve is loaded with a compression spring)
- Change required seals.
- Reassemble the valve. (Use longer bolts for compressing the spring which are provided on the valves.)
- Remount the valve and connect the copper tube.
- Refit the removed panels.
- Clear the shutdown and take the trial.

➤ Check Valve or Oil Stop Valve


- Take electrical shut down of the system.
- Remove the necessary panels to do the job.
- Remove the valve from the compressor element.
- Open the valve and clean the valve, also change the seals if required.
- Assemble the valve and remount it on the compressor element.
- Refit the removed panels.
- Clear electrical shut down and take trial.

➤ Cleaning Of Air Filter Element.

- Stop the equipment if running.
- Take electrical shutdown of the equipment.
- Remove the necessary panels.
- Open the filter housing.
- Unscrew the filter element nut and remove the filter element.
- Clean the filter element by blowing compressed air (pressure should not exceed 4kg cm² and air should be blown inside out).
- Refit the filter element and close the filter housing.
- Refit the removed panels.
- Release the shutdown taken.

Changing Of Oil Separator Element

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- Take electrical shut down of the system.
- Remove the necessary panels.
- Relieve the pressure from the system by loosening all the copper tubes from top of the receiver.
- Remove all the copper tubes from top of the receiver.
- Unscrew the cover and remove the element.
- Replace the element with a new one and refit the cover. (Check gasket condition in case of GA-15 & 'o' ring condition in case of GA-37 and accordingly change)
- Tighten all the cover bolts and reconnect the copper tubes.
- Refit the removed panels.
- Release shut down and trial to be taken.

C) Replacement of hoses.

- Take work permit from Operations department as per procedure
- Take electrical shutdown of Compressor.
- Slowly loosen the fittings to release the air pressure. Ensure body positioning is not in line with air release direction
- Replace the damaged hose with new one.
- Hoses has to be fitted without twisting & entanglement.
- Clear the electrical shutdown & take trial.
- Attend leakages, if any.
- Clear the work permit
- Perform the house keeping activity as per instruction

Do's

- Use ear plugs.
- Used oil to be collected & returned to store.
- Used oil soaked cotton cloth, hand gloves to store in to barrels named oil soaked waste barrels.
- Used filter to be thrown in barrel named hazardous waste barrel.

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