

7. Plant inspection and maintenance

7.1. Plant inspection

The objective of regular inspections is to keep all equipment on the plant in good working order and to detect any abnormalities as soon as possible in order to ensure maximum plant operability. All inspections should be documented including time, date and results of the inspection.

The below list shows some general points to be checked during regular inspections. It is only a guideline and does not claim to be complete. For information on regular inspections of various items of equipment refer to the manufactures operation and maintenance instructions which is included in the plant documentation.

Inspections Checklist

General

- check filter pressure drops at compressors, expander, MSA, process and back-up pumps, side stream filter, etc.
- check condensate traps are working
- check for water or oil leakage
- check for process gas or liquid leakage
- check cold box purge flow and pressure
- check seal gas system is working for pumps, machines, tanks, etc.
- check for excessive ice build-up around the cold box, pumps, valves, pipes, storage area, etc.
- check hand operated valves are in the intended position
- etc.

Front end

- check DCAC and chill tower pressure drop
- check MSA and filter pressure drop
- check CO₂ analysis after MSA
- check MSA regeneration temperature is sufficient
- check MSA pressurisation and depressurisation duration is adequate

Cold box

- check heat exchanger inlet and outlet temperatures for irregularities
- check heat exchanger pressure drops are normal
- check heat exchanger leakage by comparing analysis points
- check purge flow from crude argon condenser is sufficient (HC analysis)
- check inert gas vent at condensers are working
- check column pressure drops are normal

7.2. Regular maintenance

For instructions on regular maintenance follow the manufacturers documentation which is included in the plant documentation. Next to others the following equipment is concerned:

- air compressor
- water chiller
- molecular sieve adsorber including regeneration heater
- expander
- pumps
- filters
- valves
- flow meters
- analysers
- electric heaters
- etc.