

DRESSER-RAND-POWER

DR61G(000)-1-1

CHAPTER 4

MAINTENANCE SCHEDULE

List of Contents

Para.	Title	Page
1	GENERAL	4-2
2	DAILY INSPECTION	4-2
3	WEEKLY INSPECTION	4-2
4	MONTHLY INSPECTION	4-3
5	INSPECTION AT INTERVALS EXCEEDING ONE MONTH	4-4

DRESSER-RAND-POWER

DR61G(000)-1-1

1 GENERAL

Inspection and preventative maintenance of the Gas Turbine, Electric Generator and associated systems is recommended at the intervals detailed below. From operational experience it may be required to reduce the time interval for some components due to operational conditions.

NOTE: The Maintenance Schedule reproduced in this Chapter will normally be carried out by the Maintenance Personnel as each service 'milestone' in operating hours or time interval is reached. During operation of the units it may be determined that revisions or additions need be made to this schedule.

The Maintenance Schedule is therefore reproduced here as a reference ONLY, for the information of the Operator. The Technical Manual should be consulted for the latest status relating to maintenance requirements.

Trends may be noted during the operation of the unit that could require that an item be serviced in advance of the schedule.

For the details of the maintenance requirement and procedures for the individual components please refer to the Technical Manual for this Installation.

2 DAILY INSPECTION

It is recommended that the following inspection and maintenance work be carried out as a daily routine. The approximate time to complete this inspection is 15 minutes.

1. Check for leakages in the lubricating oil-; fuel and hydraulic start systems. Eliminate leakages by tightening pipe fittings; or installing new gaskets or by the use of approved sealing agents.
2. Release liquid trapped in the filters fitted in the Water Wash air supply lines.
3. Check the indicator lamps on the control panels by activating the various 'Lamp Test' procedures. Renew any indicator lamps that have failed.
4. Check the proper status of the control panel lamps, when the unit is in 'stand-by' mode. Refer to the Operating Manual for the status indications.

3 WEEKLY INSPECTION

If the gas turbine unit is not to be used on continuous service, over an extended period of time, it is recommended that the gas turbine unit is started once a week and run for approximately 10 minutes at the rated speed and without load. The approximate time to complete this inspection is 30 minutes.

DRESSER-RAND-POWER

DR61G(000)-1-1

The following inspection should be carried out in conjunction with the off-load operation of the turbine:

Prior to starting the turbine proceed with the following:

1. Check the turbine and generator lubricating oil reservoir tanks. Refill to the correct level if necessary.

NOTE: When replenishing the oil do not overfill the tank. An overfull tank results in oil blowing out of the tank vents. Never mix lubricating oils of different grades and source of supply.

2. Check for leakages in the lubricating oil-; fuel-; steam; water and hydraulic start- systems. Eliminate leakages by tightening pipe fittings; installing new gaskets or by the use of approved sealing agents.
3. Inspect hoses for abrasion or damage.
4. Check the control panel indicator lamps for function by activating the various 'Lamp Test' procedures. Renew any failed lamps.

Start and run the turbine off load for approximately ten minutes.

When the turbine speed has stabilized at the rated speed record all the monitored information and compare with the records from previous operational tests.

5. Record all discrepancies in the turbine log.
6. Check the lubricating oil flow to the generator bearings.

4 MONTHLY INSPECTION

It is recommended, that where the unit is not being used for continuous service, to extend the weekly operating test once a month and operate the turbine for approximately thirty minutes. The time required to complete this inspection is approximately forty-five minutes.

It is mandatory that prior to start-up of the turbine the procedures listed in Paragraph 3 of this Section are performed to the point of starting the turbine.

Once the pre-start checks have been completed proceed as follows:

1. Start the turbine and run it for approximately for thirty minutes at rated speed, if possible under full load.
2. With the turbine at stabilized running conditions, record all monitored indications and compare them with records from previous operating periods.
3. Record all discrepancies in the log.
4. Check the lubricating oil flow to the generator bearings.
5. Compressor cleaning procedures are given in the Operating Manual and also in Part 4, Chapter 6 of this Technical Manual. They should be performed if a reduction in turbine power is noted; or after a period of extended turbine operation.
6. Check the ignition system for correct operation.

DRESSER-RAND-POWER

DR61G(000)-1-1

CAUTION: High voltage is produced from the ignition units; do not touch cables or connections until at least 5 minutes after isolation of the ignition system.

7. Refill the bearings of the hydraulic system pump electrical motor with grease if required.

5 INSPECTION AT INTERVALS EXCEEDING ONE MONTH

NOTE: 300 starts of the turbine is considered to be equivalent to 1000 hours of running time for those units that are primarily for stand-by function. And 2000 hours may be equated to a service interval of two years. For continuous operation 500 hours may be considered as equivalent to six months.

ITEM	SUBJECT	INTERVAL
1	Check grease level in shaft coupling.	500 hours
2	Refill electric motor bearings with grease if necessary.	500 hours
3	Check alarm and trip settings for the monitoring system.	500 hours
4	Vent generator heat-exchanger	500 hours
5	Check monitoring functions.	500 hours
6	Inspect turbine combustion chamber and fuel nozzles, clean if required.	2000 hours
7	Inspect turbine volute and nozzle guide vanes for cracks and burned areas.	2000 hours
8	Renew ignition unit and or ignition plugs.	2000 hours
9	Check generator air filter for leakage	3000 hours
10	Check generator earthing and earth fault indicator brushes	3000 hours
11	Check shaft coupling and its alignment	4000 hours
12	Inspection of Accessory gearbox	4000 hours
13	Renew lubricating oil filter elements	6000 hours
14	Turbine hot section inspection	8000 hours
15	Check generator unsulation reintance	8000 hours
16	Check generator diode rings for fouling	8000 hours
17	Check winding of the generator exciter motor	8000 hours

DRESSER-RAND-POWER

DR61G(000)-1-1

In addition to the above regular interval requirement the generator requires an inspection or overhaul at the following operating milestones:

2000 hours (2 years)	Limited overhaul
4000 hours (4 years)	Routine Inspection
8000 hours (6/8 years)	Overhaul

For details of the Routine Inspection, limited overhaul and overhaul refer to the generator information within Part 7 of this Technical Manual.