PURPOSE: To prevent stalling of STG after a unit shut down.

SCOPE: This SOP is applicable at NTPL

RESPONSIBILITY: Shift Engineer / Operation Engineer

PERFORMANCE CRITERIA:

ACTIVITIES:

Preventive measures to be taken to avoid STG stalling during any unit trip:

- Lube Oil temperature set point to be raised to **55 °C** after the unit trip.
- Start and keep the **second AOP** also in service (**@300 rpm**), just before opening of STG valve.
- Open STG valve at local **@ 250 rpm** and thereafter leave the valve in **local mode** to avoid any accidental closure from DCS. Two AOPs with 55°C essential when STG valve opens.
- JOP header pressure should be above **140 Ksc** with any one pump. Otherwise inform TM.
- Seal steam temperature should be maintained above **280 °C**. If unable to maintain the temperature, vacuum should be killed and seals to be isolated. THIS IS VERY IMPORTANT.
- Vacuum killing should be done, whenever possible, after speed **stabilizes** in STG. Care should be taken not to kill vacuum hastily, during coasting down period, as AST won't be available for long during station shut downs.
- Ensure HPT exhaust pressure reads 0 ksc to ensure full closing of CRH NRV. If not, close HPBP and Kill CRH pressure. **CRH NRV**, if not fully close, will result in higher coasting down time.
- When STG speed stabilizes, stop one CWP, after all other points are satisfied.
- If possible, keep the second **CWP** in service until MMT drops below 320 °C.
- Maintain normal **Hot well level**, between 150 to 200 mm.
- Check and Close all extraction **MOVs** (HPHs/Deaerator/TDBFPs/LPHs). Check and open all emergency drains of HP/LP heaters. Watch Deaerator and TDBFPs live steam pressures.
- Check and Open all **MAL** drains (esp. MAL-65, 81 and extractions). Ensure continuous drain line (with orifice) of seal steam header (parallel to MAL-81) is hot.
- After closing of HPBP, close the manual isolation valve before **BD** valve.
- Prevent **Exhaust hood** spray operation, to the extent possible.
- Watch metal temperatures. Stalling probability is lesser for MMT below **320 °C**.
- Watch HP/IP Casing ΔT. Stalling probability is more for ΔT above **120 °C**.
- Inform TM division for checking **lift** at bearings, or any other abnormalities.
- TM should check and correct the **lifts** at various bearings (especially in Unit #2), immediately upon stoppage of TG shaft. **JOP pressure** also should be ensured.
- **Don't exert** excessive force to rotate TG shaft during hand barring. Allow some time in between hand barring trials and repeat for regular intervals.
- For even cooling of rotor, rotate the shaft **180** degrees each time.
- Try hand barring **until** shaft comes in STG. Ensure no oil **spillage** at the third pedestal.

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