



NLC TAMILNADU POWER LIMITED

DEPARTMENTAL PROCEDURE MANUAL

STANDARD OPERATING PROCEDURE

TITLE:- SOP FOR CW DF BACK WASHING

Doc. ID: NTPL/OPRN/SOP-13

PURPOSE: Define a procedure of Debris Filter Back Washing

SCOPE: This SOP is applicable at NTPL

RESPONSIBILITY: Shift Engineer / Operation Engineer

PERFORMANCE CRITERIA: Whenever there is a difference in Condenser CW O/L temp on both left and right side and Debris filter DP is maintaining high even after performing normal operation of Debris filter, then there is indication of choke in Debris filter. Therefore, to improve the system vacuum, it is advisable to perform back washing of Debris filter.

Back Washing can be performed if

- CW inlet Temperature is ≤ 35 deg.C
- Unit Load is < 208 MW
- Condenser pressure is less.

ACTIVITIES:

1. Remove External Bucket filter (BY TM).
2. Connect external connection to debris filters discharge open to Atm (By TM).
3. Bucket filter downstream isolation valve to be closed.
4. Condenser I/L and O/L temp elements should be healthy.
5. Debris filter DP Tsr should be healthy.
6. Unit Load reduce to < 280 MW.
7. Keep both vacuum pump in service.
8. Start the debris filter motor and open its discharge valve, for which back washing is planned.
9. Close corresponding CW inlet valve to 50%.
10. Close ACW inlet valve corresponding to CW Inlet valve closed.
11. Close Air inlet isolation valve(HOV) @LPBP area of the side for which back washing is to be done
12. Stop one CW pump and maintain CW pump discharge pressure.
13. Immediately after stopping CW pump, Close corresponding CW inlet valve fully.
14. Full closing of CW intel valve can be ensured if DP across the debris filter becomes 0 mmwc.
15. Keep open both CW outlet valves maintaining pump discharge pressure.
16. Reverse flow can be ensured when other side condenser outlet temp becomes equal to condenser inlet temp of the side for which back washing is being done.
17. Operate the debris filter for 1 hour and monitor the change in DP across Debris filter
18. Once process completes, normalise the system as before.
19. Open CW inlet valve to 30%.
20. Start CW pump and open CW inlet valve to 100%.
21. Open Air Suction valve@ LPBP area.
22. Open corresponding ACW inlet valve.
23. Stop debris filter motor and close its discharge valve.



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RECORDS:

Record Title	Record No.	Location	Responsibility	Retention Time
UCB B&T Log	NTPL/OPRN/R-01	CCR	Operation Div.	3 Years

VERIFICATION, CORRECTIVE AND PREVENTIVE ACTION:

HOD shall ensure adequacy and implementation of the above procedure through periodic interaction with department personnel, and regular review and monitoring of the processes and compliances. In case of any observed deviation, corrective and preventive action shall be immediately undertaken.

HOD