PURPOSE: To define Procedure for handling PAF failures

SCOPE: This SOP is applicable at NTPL

RESPONSIBILITY: Board Engineer/ Shift Engineers

REFERENCE: As per normal procedures adopted everywhere.

ACTIVITIES:

Normally PAF tripping arising due to various reasons can lead to coal fire failure and any attempt made for saving a running unit often proves unsuccessful. Even as planned stoppage of one PAF requires some preparations, sudden trips will definitely lead to large PA header pressure buckling because of the long time taken for outlet gate closing. However, attempts can be made to avoid unit or boiler tripping in certain cases, without crossing the safe operation limits.

Procedure for Stopping one PAF:

During low load periods one PAF can be stopped and repair works undertaken. Normally PCD is closed to zero % and fan stopped. To avoid any possible pressure drop in PA header, the outlet damper can also be closed to about 80% from local, before tripping the fan. Care should be taken during test operation of breakers, as 'ON' feedback indications may sometimes trigger unwanted auto operation of discharge dampers resulting in pressure buckling of PA header.

Procedure for Stopping one PAF with defective PCD:

If PCD of a PAF is defective, but still operable, it can be kept in manual mode, isolate actuator power supply and operated manually from local, etc. as the case may be, before stopping the fan. PA header pressure should be maintained manually, if auto is found sluggish for the other PAF. If outlet damper could be closed to 80% before fan stoppage, there is no fear of coal failure. However, if outlet damper could not be closed to 80% due to full open of PCD etc., at least close to 50% or more as comfortable without stalling or vibration at local, before stoppage. Adequate number of oil burners should be taken into service, to save at least the boiler even if TG trips on reasons due to sudden reduction in firing, before attempting to stop the defective PAF.

Observe normal functioning of HPBP with fast opening etc. so that drum level is not affected due to MS pressure variations. Also Unit load should be reduced fast, in load control mode, to match the new firing rate to avoid low temperature turbine protection trip.

Note: As PA header pressure is directly controlling the amount of fuel injected into the firing zone, any sudden air pressure variations can lead to heavy fluctuations in the quantity of fuel injected into the furnace, with the inherent dangers related to furnace stability. So safety limits should never be bypassed at any cost, in attempting to save either unit or boiler. If a PAF trips suddenly during load operation, it may be difficult to control the PA header pressure buckling and sometimes allowing a unit to trip may be a better option, as far as safety aspects are concerned.

RECORDS:

Record Title	Record No.	Location	Responsibility	Retention Time

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