

2 - OBJECTIVES

- LEARN & CHANGES TO PROCEDURES

- BE ABLE TO CONTROL ON SIMULATORS

AFW Pump Normal Operation and Testing Pre-Job Briefing Requirements

Purpose:

To ensure the pre-job briefs for AFW pump normal operation and testing includes the AFW pump minimum flow requirements and the use of a Dedicated Operator (level as designated by the procedure). Due to the time critical actions required if the minimum flow requirements cannot be met, a precise briefing will ensure the Dedicated Operator is clear on the required communications and prompt actions that may need to be taken to protect the AFW pump.

Applicable Procedures:

All OIs, ITs, etc. that have the potential of adjusting AFW flow.

Scope of Job / Evolution:

Starting / Stopping / Flow Adjustments of AFW pumps P-38A, P-38B & 1(2)P-29

Risks to Plant Operation, Power Generation, or Nuclear Safety:

Operation of the AFW pumps below the minimum flow requirements of 50 gpm MDAFWP and 75 gpm^p TDAFWP would result in pump damage within seconds. To ensure these requirements are always met, a Dedicated Operator will be used to continuously monitor local recirc flow if pump flow will be adjusted to <50 gpm MDAFWP / <75 gpm TDAFWP.

Personnel / Equipment Hazards & Concerns:

The design operation of the minimum recirc valves is that the valve opens on pump start, closes 45 seconds after flow is >95 gpm MDAFWP / >145 gpm TDAFWP, opens if flow is <75 gpm MDAFWP / <110 gpm TDAFWP and will remain open for 45 seconds after the pump is secured.

When the recirc valve is open, local recirc flow should normally indicate between 70 – 80 gpm MDAFWP and >100 gpm TDAFWP

The minimum discharge and/or recirc flow requirements to prevent pump damage is >50 gpm MDAFWP and >75 gpm TDAFWP. These requirements can only be ensured by monitoring of the discharge flow in the control room and/or the recirc flow locally.

A/11

Logistics Support Requirements:

A Dedicated Operator must be stationed to continuously monitor recirc flow if pump flow will be adjusted to <50 gpm MDAFWP / <75 gpm TDAFWP to ensure the minimum flow requirements are maintained as indicated by the local recirc flow.

If a Dedicated Operator is not stationed, the pump must be secured if flow is adjusted to <50 gpm MDAFWP / <75 gpm TDAFWP.

ALARA Considerations:

None

Communications Requirements:

When flow adjustments are made that will affect recirc valve operation, the CO must communicate this to the AO prior to making any flow adjustments. Communications from the AO when recirc flow is below the minimum requirements must be immediate, concise, clear and evoke an immediate pre-planned response to protect the pump if the low flow is not expected as a result of intentionally raising the flowrate.

The Dedicated Operator assigned to continuously monitor recirc flow when pump flow will be adjusted to <50 gpm MDAFWP / <75 gpm TDAFWP will IMMEDIATELY notify the control room if indicated recirc flow is <50 gpm MDAFWP / <75 gpm TDAFWP to ensure the pump is promptly secured.

PBNP Lessons Learned:

Modifications have been made to include backup nitrogen to the MDAFWP recirc valves and backup air to the TDAFWP recirc valves due to the potential of the valves failing closed on a loss of IA. During recent testing of the MDAFWP, it was determined that the recirc line orifices for all AFW pumps could become clogged resulting in a complete loss of recirc flow.