Volume 05

Section 02

05-1-02-V-6

Revision: 11

Date: 6-12-82

OFF NORMAL EVENT PROCEDURE

FEEDWATER CONTROL FAILURE MAX DEMAND

SAFETY RELATED

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1.0 PURPOSE/DISCUSSION

1.1 The purpose of this procedure is to provide instruction for the operator during a Flow Control Failure causing an increase in Reactor Water Inventory.

1.2 This procedure may interface with ONEP's, SOI's, Emergency Plan, and Emergency Procedures.

1.3 A Feedwater Flow Control Failure causing an excess of coolant inventory in the Reactor Vessel is possible during the run and startup modes of operation. The increasing level may be caused by a failure of the Startup Level Control Valve or by one or both Reactor Feed Pump Speed Controls. During startup a Reactor Scram on high flux may occur due to a cold water addition. In RUN, the Reactor may scram on high level if the operator does not trip the affected Reactor feed pump prior to $\leq$+53.5. If both Reactor Feed Pumps fail with increasing speed, the Reactor will scram on high level.

2.0 SYMPTOMS

2.1 Increasing Reactor Water Level.

2.2 Reactor Level High Alarm.

2.3 Reactor Feed Pump Control Signal Failure Alarm.

2.4 Reactor High Water Level Trip Alarm.

2.5 Reactor Scram due to high reactor level or high neutron flux.

2.6 APRM Upscale Alarms.

2.7 Reactor Feed Pump Trip.

2.8 Main Turbine Trip.

3.0 AUTOMATIC ACTIONS

3.1 Reactor Scram if power level reaches 15% in startup or the flow-biased flux scram setpoint if in run.

3.2 Reactor Scram, if level reaches +53.5" in run.

3.3 Reactor Feed Pump, Main Turbine, and RCIC Turbine Trips, if level reaches +53.5".

4.0 IMMEDIATE OPERATOR ACTIONS

4.1 Verify automatic actions occur.

4.2 If a scram has occurred, carry out the actions of Reactor Scram ONEP 05-1-02-I-1.

4.3 If one of two running Reactor Feed Pumps has failed to Max Demand.

4.3.1 Switch to Manual and regain control, or trip the failed Reactor Feed Pump.

4.3.2 If necessary, reduce Recirculation flow ~~on the vessel~~ to reduce power to less than 60%.

4.4 If the Reactor Feed Pump has failed to Max Demand while on the startup level control valve:

4.4.1 Take manual control of the Startup Level Control Valve and reduce feed.

4.4.2 Startup the second Reactor Feed Pump in accordance with SOI-04-1-01-N21-1.

4.4.3 Shutdown the failed Reactor Feed Pump in accordance with SOI-04-1-01-N21-1.

4.4 If the Startup Level Control Valve has failed open, control feed using the SU FCV OUTL ISOL VLV 1N21-F001, handswitch HS-M625 on panel 1H13-P870 to maintain normal water level.

5.0 SUBSEQUENT ACTIONS

5.1 Control level between +32 and +42".

5.2 Proceed to implement EP-1, Level Control, if directed by the Shift Supervisor or Shift Superintendent.

5.3 If one Reactor Feed Pump is tripped and the Reactor did not scram, investigate the cause of the failure.

5.4 Continue reactor operation as per IOI 03-1-01-2, Power Operation.