

Power Reactor

Event # 36910

Site: SAINT LUCIE				Notification Date / Time: 04/20/2000 17:38 (EDT)		
Unit: 2		Region: 2		State : FL		Event Date / Time: 04/17/2000 10:20 (EDT)
Reactor Type: [1] CE,[2] CE				Last Modification: 04/20/2000		
Containment Type:						
NRC Notified by: STEVE MERRILL				Notifications: ANN BOLAND R2		
HQ Ops Officer: DICK JOLLIFFE				DAVID MATTHEWS NRR		
Emergency Class: NON EMERGENCY				CHUCK DePUY FEMA		
10 CFR Section:						
INFORMATION ONLY						
Unit	Scram Code	RX Crit	Init Power	Initial RX Mode	Curr Power	Current RX Mode
2	N	No	0	Hot Shutdown	0	Hot Shutdown

- RCS LEAKAGE CRITERIA FOR DECLARING AN UNUSUAL EVENT EXISTED ON 04/17/00 -

At 1020 on 04/17/00, St. Lucie Unit 2 was in Mode 4 in a refueling outage preparing to go on shutdown cooling. A pre-job brief was conducted and included a discussion of the potential for pressurizer level change, relief valve lifting and the need to monitor the telltale on containment spray isolation valve #MV-07-3 to determine valve leakage. The expectation was established that the operating crew would terminate the evolution if unexpected leakage was observed with the primary focus on the telltale tubing monitoring containment spray isolation valve #MV-07-3.

The control room operator observed a sudden drop in pressurizer level once the last shutdown cooling isolation valve was opened (6% drop on the hot calibration indication). The valve was immediately closed and pressurizer level stabilized; the evolution duration was approximately 3 minutes. As the valve was closing, the field operator stated he was seeing leakage through the tygon tubing, which he estimated to be about 1 to 2 gpm. There was no increase in sump level and no abnormal interfacing system behavior. Operations department personnel believed the behavior observed was consistent with filling shutdown cooling lines.

Subsequently, the on-shift engineer performed an inventory balance and, without adjusting for changing temperatures and pressures, estimated a 100 gpm leak had occurred. The Nuclear Plant Supervisor (NPS) did not feel the inventory balance was valid in that he knew the accuracy of the calculation was biased because of the effect of temperature and pressure and the short duration of the event. Based on the discrepancy between the calculation and field observation, the NPS had a condition report issued to determine the RCS leak rate.

The NPS rationale for not entering the Emergency Plan and that RCS leakage was not greater than 10 gpm was based on the following:

- his field operator's observations showed a 1-2 gpm leak,
- a lack of any increase in sump level,
- a lack of any abnormal plant interfacing systems behavior, and

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- the evolution was consistent with his understanding of the pressurizer level behavior when filling shutdown cooling piping based on his observation in the past.

A subsequent activity of placing shutdown cooling on line later that same day resulted in a similar event, with significantly less inventory loss. Shutdown cooling train A was placed on line the afternoon of 04/17/00.

However, based on the results of the engineering review, the pressurizer level drop was not solely due to the fill and vent evolution of the shutdown cooling system, as originally concluded. Two hundred (200) gallons of RCS inventory was transferred inter-system during this event. FPL has concluded that this short duration, operator-terminated event met the procedural requirements for entering the emergency plan. However, it is clear upon review of the context and intent of the emergency plan that at no time did an actual emergency or threat thereof exist.

As provided for in NUREG 1022, "a licensee may discover that an event or condition had existed which met the emergency plan criteria, but that no emergency had been declared and the basis for the emergency class no longer exists at the time of discovery". Based on an engineering review, FPL concludes that while initiating shutdown cooling on the A train on 04/17/00, an RCS inventory transfer occurred to interfacing systems in the 2-3 minute periods associated with starting shutdown cooling. The initial attempt to place shutdown cooling on line, and possibly a second attempt later the same day, resulted in leakage exceeding the Technical Specification threshold and would constitute entry into a Notification of Unusual Event. Although the criteria was met, FPL is not declaring an emergency for the following reasons:

1. The event was the result of a planned activity and the greater than expected pressurizer level drop was quickly compensated for by operator actions.
2. The event was of very short duration and at no time challenged the ability for decay heat removal or posed a threat to the health and safety of the public or plant personnel.
3. The circumstances associated with determining the appropriate classification of the event required three days of engineering evaluation.

State and local county officials and the Senior NRC Resident Inspector are being informed of the event.
