

# Pilgrim 1

## Initiating Events

## Mitigating Systems

G**Significance:** Dec 28, 2002

Identified By: Self Disclosing

Item Type: FIN Finding

**Maintenance error resulted in the unplanned loss of all X-page rod position indication (about 60% of the all control rods) for approximately 13.5 hours.**

Green. The licensee failed to properly isolate and check for voltage during maintenance on the rod position information system (RPIS) X-page 28V power supply. The maintenance error resulted in the unplanned loss of rod position indication for about 60% of the control rods (all X-page rods) for about 13.5 hours. The momentary short on the power supply further resulted in a momentary loss of the Y2 vital AC bus, and resulted minor perturbations in plant conditions. The failure to properly isolate the equipment prior to performing maintenance was an example of a cross-cutting issue in human performance. The issue was more than minor because the lack of rod position information affects the ability of the operator to verify the controls rod position and to make a timely determination that the reactor is shutdown following a scram. The issue had very low safety significance because the failure of RPIS alone does not affect the safety function of the control rods to shutdown the reactor. (Section 1R13)

Inspection Report# : [2002007\(pdf\)](#)G**Significance:** Dec 28, 2002

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

**Inadequate post maintenance test failed to identify that the replacement of the "B" control room high efficiency air filtration (CRHEAF) humidity switch was wired incorrectly.**

Green. The post maintenance test for the replacement of the "B" control room high efficiency air filtration (CRHEAF) humidistat was inadequate in that the test failed to identify that the humidity switch was wired incorrectly and would not function to control humidity below 70 percent. The operator's failure to perform a required surveillance, which would have detected the design error, was an example of a cross-cutting issue in human performance. This issue was more than minor because the "B" CRHEAF system was returned to service and declared operable prior to the licensee discovering the problem, similar to example 5.b. in Appendix E of Manual Chapter 0612. The issue had very low safety significance because only the radiological barrier function provided for the control room was affected and the issue screened to Green in Phase 1 of the Significance Determination Process. The failure to correctly translate the design to the as-built configuration and check the adequacy of the design by a suitable test was a non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control." (Section 1R19)

Inspection Report# : [2002007\(pdf\)](#)G**Significance:** Dec 28, 2002

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

**Past corrective actions, procedures and actions to trend flow channel performance not timely to preserve flow-biased APRM scram function when "A" flow converter failed due to age related degradation.**

Green: The A reactor protection system (RPS) channel flow-biased APRM scram function was inoperable because of a failure of the "A" flow converter FC-Z7a due to age related degradation. The scram function was lost because the licensee failed to establish adequate preventative maintenance practices following the age related failure of the redundant flow converter in 1997. Further, procedures and trending of flow converter performance was inadequate to assure timely action could be taken in response to a failing transmitter on October 2 to preserve the safety function. The ineffective corrective actions were an example of a cross-cutting issue in problem resolution. This issue is more than minor because it affected the Mitigating system cornerstone objective that the APRM scram preclude plant operation in minimum flow area of power flow map. The finding had very low safety significance since an automatic scram and operator manual action would have mitigated a power instability event. The failure to take the actions within the time-frame specified in T.S. Table 3.1.1. for the inoperable Flow Biased APRM scram function, was considered a non-cited violation. (Section 1R22)

Inspection Report# : [2002007\(pdf\)](#)

G**Significance:** Jan 17, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to correct reactor vessel level spiking**

The inspector identified a non-cited violation for inadequate corrective actions associated with the December 27, 2001, reactor vessel water level instrumentation spiking. To date, reactor vessel level spiking has been experienced on two other occasions since the April 2001 refueling outage (April 21 and August 13, 2001). The finding was of very low safety significance. The significance was determined by comparing it to a Phase 3 SDP risk evaluation that was conducted for the April 13, 2001, reactor vessel water level spiking event (reference NRC Inspection Report 50-293/01-06). The April 2001 spiking event affected both channels of reactor vessel level instrumentation and was concluded to be of very low safety significance (Green). Since this event only affected the "B" level instrumentation, this condition is also determined to be of very low safety significance. The inspectors determined that this issue involved a human performance causal factor since the instrument rack purge location was not properly identified, which could have resulted in entrapped gasses

Inspection Report# : [2001008\(pdf\)](#)

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## Barrier Integrity

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## Emergency Preparedness

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## Occupational Radiation Safety

**Significance:** N/A Jan 17, 2002

Identified By: Licensee

Item Type: NCV NonCited Violation

**Non-posted high radiation area**

Lack of proper posting and barricade for a high radiation area located on the 91' elevation of the reactor building in the skimmer corridor.

Inspection Report# : [2001008\(pdf\)](#)

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## Public Radiation Safety

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## Physical Protection

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## Miscellaneous

**Significance:** N/A Jan 17, 2002

Identified By: NRC

Item Type: FIN Finding

**Apparent trend in human performance area, attributed mostly with engineering involvement.**

The inspector noted development of an apparent trend in human performance, attributed mostly with engineering involvement related to procedure development, performance, and corrective action implementation that resulted in findings in multiple cornerstones. The following human performance deficiencies have occurred within the past 12 months: 1. In February 2001, engineering personnel failed to ensure prompt corrective actions to resolve continued problems with the 125 VDC swing bus automatic transfer switch, Y-10 relay, that had the potential to render the low pressure coolant injection (LPCI) system inoperable (NCV 50-293/00-11-01); 2. In March 2001, the licensee failed to identify that certain relays in the 480 volt emergency load center transfer scheme (B-6) did not meet procurement specifications that could result in LPCI function being lost under certain conditions (NCV 50-293/01-02-01); 3. In May 2001, engineering personnel failed to control testing on a

reactor recirculation system sample valve that prompted the need for a manual reactor scram during plant startup from the cycle 13 refueling outage (NCV 50-293/01-03-05); 4. In August 2001, the licensee's failure to adequately develop a logic system functional test procedure for the A5 electrical emergency bus resulted in the loss of both reactor recirculation pumps and a reactor scram (NCV 50-293/01-05-03); 5. In December 2001, licensee radiation protection personnel failed to properly post a high radiation area boundary; 6. In December 27, 2001, the NRC identified ineffective corrective actions associated with reactor vessel water level instrumentation spiking involving an inadequate instrument rack purge. (NCV 50-293/01-08-01). These individual issues have a related cause in that they represent human performance errors. They also have a direct impact on safety, increase the frequency of initiating events and affect the reliability, operability and functionality of mitigating equipment. This performance trend is considered a cross-cutting issue and is a finding characterized as "no color."  
Inspection Report# : [2001008\(pdf\)](#)

Last modified : March 25, 2003