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**Sort By Inspection Procedure**

12-Jul-04

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**71111-04Q: Equipment Alignment (I30/M60/B10)**

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Unit: 1    Date: 08-Apr-04    IR: -3    Inspector: Karjala    Time (Hrs): 6

Cornerstone: Mitigation Systems

**Observations:**

Performed Equipment Alignment (partial) walkdown for Unit 1 RHR system while in the decay heat removal condition (Mode 5). Walkdown included control room and accessible manual valves in Aux. Bldg. Used procedure OP-7A, "Placing Residual Heat Removal System in Operation", revision 42. No deficiencies noted.

Performed equip. alignment walk down of "B" train of RHR. No issues

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Unit: 1    Date: 21-Apr-04    IR: -3    Inspector: Jorgensen    Time (Hrs): 4

Cornerstone: Mitigation Systems

**Observations:**

4.0 hours (Unit 1): On Wednesday, April 21, reviewed lineup procedures and system drawings for establishing and maintaining "cold" reactor vessel level monitoring system instrumentation. On Thursday, April 22, verified selected valve positions and controls (red tags) on the system.

The inspector determined that licensee procedure OP-4F adequately identified the sequence and properly established the positions of valves necessary to vent, drain and place into service the "cold" reactor vessel level monitoring system. Adherence to this procedure ensured accurate indications of vessel level were available at all times. The licensing basis for the Pt. Beach nuclear plant was established in 1988, with two (of three) transmitters sharing the same sensing leg, in a manner which did not provide total channel independence. The licensee was evaluating the practicality and desirability of modifying the system.

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Information in this record was deleted  
in accordance with the Freedom of Information  
Act, exemptions 2  
FOIA/PA-2004-0282

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Q-1

Unit: 1 Date: 13-May-0 IR: -3

Inspector: Morris

Time (Hrs): 4.5

**Cornerstone: Mitigation Systems**

**Observations:**

Reviewed paperwork and evaluations of loss of spent fuel pool cooling during the breaker alignment for the B-42 bus bolted fault modifications. Walkdown electrical and piping line-ups and evaluated the effects of the pump being turned off for 4 hours.

on April 23, 2004 electrical maintenance was performing a breaker alignment in preparation for the upcoming bus outage. During the breaker alignment the person performing the breaker alignment and the peer checker both verified that the correct breaker was going to be manipulated and they were both distracted prior to the manipulation. When the person performing the manipulation returned his attention to the task of opening the breaker, he manipulated the wrong breaker. Approximately three hours later an auxiliary operator discovered that the spent fuel pool (SFP) cooling flow was zero. The 'A' SFP cooling pump (P-12A) had been operating previously. The auxiliary operator reported the information to the control room and the operators entered AOP-8F, "Loss of Spent Fuel Pool Cooling," procedure. The operators identified that the breaker for P-12A was in the "OFF" position. Per AOP-8F, step 3a, P-12A, SFP cooling pump was started. This is a repeat occurrence of wrong unit/equipment this outage.

(5/13, Morris 4.5)

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Unit: 1    Date: 03-May-0    IR: -3    Inspector: Karjala    Time (Hrs): 3.5

**Cornerstone: Initiating Events**

**Observations:**

Performed FP walkdown of all elevations (4 zones) of U#1 containment. Observations:

- one of three fire extinguishers on elev 21 ft was hidden behind equip.
- two of four extinguisher on elev 66 ft were behind scaffold and materials
- transient combustibles included 11 barrels of RCP motor oil and bulk storage of RP materials (PCs and contamination control supplies)

Transient combustibles appear to be contrary to FPER and procedures NP 1.9.6 (Housekeeping) and NP 1.9.9 (Transient Combustible Control)

Discussed with FP procedure owner, Bob Ladd.

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Unit: 1    Date: 06-May-0    IR: -3

Inspector: Karjala

Time (Hrs): 2.5

Cornerstone: Mitigation Systems

**Observations:**

Performed FP walkdown of all elevations (4 zones) of U#1 containment. Observations:

- one of three fire extinguishers on elev 21 ft was hidden behind equip.
- two of four extinguisher on elev 66 ft were behind scaffold and materials
- transient combustibles included 11 barrels of RCP motor oil and bulk storage of RP materials (PCs and contamination control supplies)

Transient combustibles appear to be contrary to FPER and procedures NP 1.9.6 (Housekeeping) and NP 1.9.9 (Transient Combustible Control)

Discussed with FP procedure owner, Bob Ladd.(Morris, 0.5 hours)

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Unit: 1    Date: 07-May-0    IR: -3    Inspector: Karjala    Time (Hrs): 4

**Cornerstone: Mitigation Systems**

**Observations:**

Performed FP walkdown of all elevations (4 zones) of U#1 containment. Observations:

- one of three fire extinguishers on elev 21 ft was hidden behind equip.
- two of four extinguisher on elev 66 ft were behind scaffold and materials
- transient combustibles included 11 barrels of RCP motor oil and bulk storage of RP materials (PCs and contamination control supplies)

Transient combustibles appear to be contrary to FPER and procedures NP 1.9.6 (Housekeeping) and NP 1.9.9 (Transient Combustible Control)

Discussed with FP procedure owner, Bob Ladd.

**Introduction:** The inspectors identified an NCV of 10 CFR 50.48(a)(2)(i) having very low safety significance (Green) when transient combustibles were stored in the Unit 1 Containment Building and the Turbine Building without required administrative controls.

**Description:** Inspectors identified that significant quantities of transient combustible materials were stored in the Unit 1 Containment and the Turbine Building during Unit 1 refueling outage (U1R28) without required administrative controls. The materials in the Containment Building included 11 drums of lubricating oil and storage shelves of radiation protection materials (cloth and plastic contamination control clothing and supplies). The inspectors also identified 8 drums of waste oil in the Turbine Building adjacent to AFW Pump and Emergency Diesel Generator (EDG) areas. Permits did not exist for the storage of these materials as required by procedures in the Fire Protection Evaluation Report (FPER), Section 3.1.2.2, "Transient Combustible Control," and Section 7.3.1, "Containment," NP 1.9.6, "Plant Cleanliness and Storage," and NP 1.9.9, "Transient Combustible Control."

**Analysis:** The inspectors determined that failing to implement administrative controls for transient combustible materials in areas containing safety-related equipment was a performance deficiency warranting a significance evaluation. The inspectors concluded that the finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Disposition Screening," issued on January 14, 2004. The finding affected the Reactor Safety Initiating Events cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown, specifically protection against external factors (fire). The finding also affected the cross-cutting area of Human Performance because the licensee failed to identify the transient combustible materials during tours required by the FPER, Section 3.1.2.2, "Transient Combustible Control," and Section 7.3.1, "Containment," and procedures.

The inspectors completed a significance determination of this issue using IMC 0609, "SDP," dated March 21, 2003, Appendix F, "Fire Protection and Post-Fire Safe Shutdown SDP," issued February 27, 2001 and Appendix G, "Shutdown Operations" issued February 27, 2001. The issue was not suitable for analysis using the SDP process because Appendix F did not include analysis of shutdown conditions and Appendix G did not include analysis of fire protection measures. The inspectors determined that the finding was of very low safety significance (Green) since the issue did not affect detection and manual suppression capability, automatic suppression capability, fire barriers, or twenty-foot separation, and the quantity of transient combustibles had been bounded by the analysis contained in the Fire Hazards Analysis Report. This finding was assigned to the reactor safety initiating events cornerstone for Unit 1.

Enforcement: 10 CFR 50.48(a)(2)(i) requires that the fire protection plan include administrative controls for fire prevention. The FPER, Section 3.1.2.2, "Transient Combustible Control," and Section 7.3.1, "Containment," require that administrative controls be maintained for use of transient combustible material. Contrary to these requirements, significant quantities of transient combustible materials were found in areas of the Unit 1 Containment Building and the Turbine Building without the required administrative controls. Because this violation was of very low safety significance and it was entered into the licensee's CA program, this violation is being treated as a Non-Cited Violation (NCV), consistent with Section VI.A of the NRC Enforcement Policy. (NCV 05000266/2004003-011).

(Morris 1.0 hours)

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Unit: 1    Date: 07-May-0    IR: -3    Inspector: Karjala    Time (Hrs): 2

Cornerstone: Mitigation Systems

**Observations:**

Performed FP walkdown of all elevations (4 zones) of U#1 containment. Observations:

- one of three fire extinguishers on elev 21 ft was hidden behind equip.
- two of four extinguisher on elev 66 ft were behind scaffold and materials
- transient combustibles included 11 barrels of RCP motor oil and bulk storage of RP materials (PCs and contamination control supplies)

Transient combustibles appear to be contrary to FPER and procedures NP 1.9.6 (Housekeeping) and NP 1.9.9 (Transient Combustible Control)

Discussed with FP procedure owner, Bob Ladd.

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**Sort By Inspection Procedure**

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**71111-13: Maint. Risk Assessment (I20/M70/B10)**

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**Unit: 0    Date: 19-Apr-04    IR: -3                    Inspector: Ray                    Time (Hrs): 5****Cornerstone: Mitigation Systems****Observations:**

Fire pump out unexpectedly risk to yellow. Due to dirty water. Evaluated as OK and returned to service. Week of 4/19, Steve Ray 5.0 hours

Ex. 2

Ex. 2

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**Unit: 0    Date: 04-Jun-04    IR: -3                    Inspector: Morris                    Time (Hrs): 5****Cornerstone: Mitigation Systems****Observations:**

Reviewed work performed during the week of May 17 - 22. No abnormalities found. Major work was extended Unit 1 outage and Unit 2 planned work. (Morris 5.0 hours)

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**Unit: 0    Date: 17-Jun-04    IR: -3                    Inspector: Morris                    Time (Hrs): 5.5****Cornerstone: Mitigation Systems****Observations:**

Reviewed work performed during the week of June 6 - 12. No abnormalities found. First full week after the outage. With work on unit 1 B MFWP. (6/17, Morris 3.5)

Completed review of week risk. No Comments (6/18, Morris 2 hours)

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Unit: 0    Date: 22-Jun-04    IR: -3    Inspector: Morris    Time (Hrs): 5

Cornerstone: Mitigation Systems

**Observations:**

Began maintenance risk review for week of 6/13. (6/22, Morris 2.5 hours)

Completed maintenance risk for the week. No comments. (6/23 Morris 2.5 hours)

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**71111-14: Non-routine Evolutions**

Unit: 1    Date: 03-Apr-04    IR: -3

Inspector: Karjala

Time (Hrs): 16

Cornerstone: Initiating Events

**Observations:**

**OFF-LINE/SHUTDOWN**

Observed unit power reduction from about 30% power through reactor shut down, and initial cooldown via steam dumps to condenser.

**UNIT ON LINE**

Unit 1 Shut Down for 1R28 Refueling Outage:

The following equipment problems were encountered:

- One control rod IRPI stuck and recovered
- Moisture/Separator Reheater valves stuck
- One condenser steam dump valve did not respond; was isolated
- Valve from HUT to BAST leaked through delaying boration

Shut Down sequence was as follows:

- 01:25, main generator breaker opened
  - 01:37, turbine manually tripped
  - 01:48, entered Mode 2
  - 02:09, reactor manually tripped; entered Mode 3
  - 02:45, containment hatch doors opened
-

Unit: 2    Date: 19-May-0    IR: -3    Inspector: Morris/Zoia    Time (Hrs): 20

Cornerstone: Mitigation Systems

Observations:

Observations for Unit-2 start-up following the reactor trip.

Observed the prestart-up briefing for the Ops crew and the initial board walkdowns. Observed the control room crews during the closing of the reactor trip breakers and the initial withdrawal of the shutdown banks. No comments (5/18, Morris 4 hours)

Observed the withdrawal of the control banks through completion of step 5.18 of OP 1B, Reactor Startup and entry into OP 1C, Startup to Power Operation. The crew handled reactivity additions, ICR monitoring and communications adequately. There were many observers, assisting Operations and Reactor Engineering personnel on hand during these activities who performed or verified appropriate actions were taken. (5/18, Zoia 5.0 hours)

Observed the control room crew during the transition to mode-1. Observed power accention above 10% and blocking of trip circuits. The unit was synchronized to the grid at 0423. (2/19, Morris 6.0 hours)

At approx. 0543, a turbine trip was announced, apparently due to an EHC failure. Follow-up with Rob Haarsch and the I&C shop seems to validate this, as the failure was repeated in the shop. I have requested copies of the results of the investigation performed. CAP # 056804 was written to document this, but "notes" that the unit had been on the VPL for 20 minutes before it was noticed. Due to the relief that the repeat of the failure in the shop provided the "smoking gun" and proved that the wrong button was not pushed, eliminating the Human Performance error by Operations, as expressed by Mr. Haarsch. I then questioned if not noticing the unit on the VPL was considered an error. Operations felt that being in this situation did not meet expectations, but came short of calling it a HP error. The Regulatory Assurance Manager, on the other hand, did not agree. He said he would discuss this with the Operations Manager - he believed that this required a CAP by itself. (5/19, Zoia 1.0 hour)

At approx. 1330, Rob Haarsch called to inform me of a FW leak situation on U2. The recirc valve flange on the "B" MFW pump caused a large FW leak. The water, which was only "warm" and not contaminated, sprayed many gallons over a large area of the 26' elevation of the turbine building and below. The insulation covering the flange came off along with 3 nuts, and the remaining 5 nuts were backed off almost completely. This created a "V" between the flange and the seal, leaving a large hole. The shift responded using AOP 2A, starting the "A" MFW pump and shutting down the "B" MFW pump, thereby isolating the leak. The insulation on the "A" MFW pump was removed to verify that the bolts were fully engaged (they will be torque-tested once the pump is no longer needed and turned off). Current plans are NOT to increase power until the "B" MFW pump is repaired and available. (5/19, Zoia 2.0 hours)

Watched power increase to 100%. (5/20, Morris 1.5 hours)

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Unit: 1 Date: 23-May-0 IR: -3

Inspector: HIGGINS

Time (Hrs): 11

Cornerstone: Initiating Events

**Observations:**

Observed removal of the nozzle dams in the "A" & "B" steam generators. Attended pre-job brief on the job. Comments as follows:

The pre-job brief was comprehensive and professional. Good outline for the job and well presented.

The actual dam removal evolution was well controlled by P.B plant personnel. No problems with air lines occurred. Planning for the job was obviously well done. Coordination with the OCC was well done. P.B. management was well in attendance, in control of the job and used procedures to control and manage the job. The contractor was well directed by P.B. management. All in all, it was a complete turnaround of the evolution to install the dams. This job is a perfect example of what good planning and onsite management can do for improvement of plant performance.

One problem that occurred which should be noted for resolution was that two small pins on the "A" hot leg dam were missing when the dam was inspected after removal. CAP # 056948 was written on these pins.

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Unit: 1    Date: 08-Apr-04    IR: -3    Inspector: Jorgensen    Time (Hrs): 2

Cornerstone: Mitigation Systems

Observations:

Excure Source-Range Nuclear Instrument NI-31 Pre-amplifier Found Defective

a. Inspection Scope

The inspectors reviewed the licensee's actions and assessments relating to the discovery that a pre-amplifier on Unit 1 excure source-range instrument IN-31 had failed. The focus of the inspection was on whether the instrument was capable of performing its safety functions at the required times or, if not, the condition of inoperability was recognized and the proper actions taken.

b. Analysis

The licensee was performing a surveillance test when the pre-amplifier for source range instrument IN-31 was found to be in a failed condition. The condition was documented and the defective pre-amp box was replaced. The documentation (CAP055332) described the cause as "unknown" and the issue was closed to trending. The inspectors reviewed the station logs and interviewed instrumentation and control (I&C) staff and learned that the instrument had been operating properly before being isolated for testing. At the time it was isolated, it was no longer required to be in an operable status. The inspector verified that the failure did not occur until well after the reactor trip breakers and bypass breakers were open. According to I&C, the testing itself caused the failure of the pre-amp box. Either an internal connection was twisted and broken during disconnection of the power cable, or an internal chip was damaged by a current surge during re-connection. Both of these had caused previous pre-amp failures. In fact, testing of the pre-amp box on instrument NI-32 showed it to also be in a failed condition a couple of days after the NI-31 event. Instrument NI-32 was likewise known to have operated properly when it was required to be operable, prior to the testing activity. The inspectors identified documentation errors during the review. For example, an 0745 entry in the station log dated April 3, 2004, identified IN-35 as a "source-range" instrument. IN-35 is an intermediate range nuclear instrument. CAP055332, under "Basis for Operability" stated "IN-31 returned to operable status as discussed above." However, there was no discussion of the return to operable status - the instrument was actually returned to operable status at the conclusion of the testing about a day later. It was not required to be operable in the interim. The inspectors concluded that the licensee was not required to perform a formal operability determination, based on the evidence of continued proper instrument performance prior to the testing.

c. Findings

No findings of significance were identified.

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**71111-19: Post Maintenance Testing (M90/B10)**

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**Unit: 1    Date: 02-May-0    IR: -3                    Inspector: Karjala                    Time (Hrs): 4.5****Cornerstone: Initiating Events****Observations:**

Observed core mapping (fuel assembly location verification). Two nuclear engineers recorded fuel assembly location on DVD and paper core map charts independently, and then compared their charts. No differences required resolution.

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**Unit: 1    Date: 03-May-0    IR: -3                    Inspector: Jorgensen                    Time (Hrs): 3.5****Cornerstone: Mitigation Systems****Observations:**

(Unit 1, at 3.5 hours): Regarding the containment sump "B" testing, the licensee encountered some minor procedure discrepancies during performance of the Train B portion, which was performed first. These included instructions to close a valve which did not exist and a typographical error in a valve identifier. The errors were corrected and the Train A portion of the test was separately completed and documented. During the Train A portion of the test, one valve (ISI-850A) was not timed on first opening. The valve was re-closed and timed on a second opening stroke. The validity of the timing of the second stroke was questionable, due to potential "pre-conditioning" of the valve by virtue of its previous operation; however, having missed the timing of the initial valve stroke, the licensee apparently had no other option than to repeat the test to acquire the data. The inspector considered this to be an inadvertent rather than programmatic pre-conditioning. Stroke time (3.7 seconds) was easily within the upper limit of 9.21 seconds and was consistent with the performance of the comparable Train B valve.

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**Unit: 1    Date: 04-May-0    IR: -3                    Inspector: Jorgensen                    Time (Hrs): 3.5****Cornerstone: Mitigation Systems****Observations:**

(Unit 1, at 3.5 hours): Monday and Tuesday, May 3-4, conducted reviews of the post-maintenance testing of the Unit 1, "B" train residual heat removal (RHR) pump following rotating assembly replacement, and post-maintenance testing of the containment sump "B" suction line.

Regarding the testing of pump 1P-10B, the inspector verified the "A" train pump was operable throughout the test period to provide the decay heat removal function, as required. This testing served to establish a new ASME code baseline performance standard, as well as to demonstrate pump capability to meet FSAR minimum criteria. Although the new rotating assembly provided a slightly reduced differential pressure (118.7 psid), overall performance was still comfortably above the minimum (104.6 psid). Further, the purpose of the repair activity, to address a worsening trend in bearing vibrations, was achieved. Bearing vibrations were substantially reduced at all pump flows and became lower, as expected, at higher flow values.

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**Unit: 1    Date: 25-May-0    IR: -3                    Inspector: Karjala                    Time (Hrs): 3**

**Cornerstone: Mitigation Systems**

**Observations:**

Reviewed Post-Maint. Test package for Safety Injection Pump 1P-15B following seal replacement. No comments.

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**Unit: 1    Date: 08-Jun-04    IR: -3                    Inspector: Morris                    Time (Hrs): 3**

**Cornerstone: Barrier Integrity**

**Observations:**

Reviewed the PMT for the containment purge and exhaust penetrations. No comments (6/8, Morris 3 hours)

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**Sort By Inspection Procedure**

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**71111-20: Refueling & Outage (I20/M70/B10)**

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**Unit: 1    Date: 01-Apr-04    IR: -3                    Inspector: HIGGINS                    Time (Hrs): 16****Cornerstone: Initiating Events****Observations:****OUTAGE RISK PLAN REVIEW**

Reviewed the following documents:U1R28 Executive Summary Schedule, defined critical path schedule,key safety functions schedule,outage risk plan,and reduced inventory orange-path contingency plan.Held discussions with plant outage manager, plant licensing manager, operations manager, plant manager, site director and various other individuals.Also reviewed CAP 055268 on outage work order deletion documentation.

**Areas of concern identified were:**

Numerous work requests on safety related items were deleted from the outage scope with the recorded reason in outage documents that removal was due to "budgetary reasons".Other reasons for removal were difficult or impossible to find and the plant outage mgr. agreed that documentation was lacking/not available in a centralized location.This situation required that a number of individual work orders be discussed with responsible engineering/maintenance personnel to identify if the work deletion was appropriate.A sample of the work orders in question was reviewed—no significant issues with deletion of work was identified. However, the issue of lack of adequate documentation was discussed with senior plant mgt. General agreement was forthcoming on this lack of documentation.

The reduced inventory contingency plan covered RHR and CCW but did not include Service Water in the walkdown process prior to entering reduced inventory. In addition ,the plan did not include contingency actions for time extension in reduced inventory.These matters were discussed with senior plant management, were favorably received, and an entry in the control room log indicated that these matters were under consideration for inclusion in the aforementioned contingency plan.

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**Unit: 1    Date: 03-Apr-04    IR: -3                    Inspector: Karjala                    Time (Hrs): 25****Cornerstone: Initiating Events****Observations:****OUTAGE CONTROL**

Attended 06:00 Outage Control Center turnover meeting (Karjala, 04/05/04, 0.5 hours)

4/6/04 - Karjala, Loudon, & Gruss toured U#1 containment. Observed ingress/egress conditions, general area housekeeping and radiation control conditions. Took photos.

Observed control room activities during standdown and 70% vessel level (Ray, 2 hours)

Observed outage work control after the stand down. (4/11, Morris 7.5 hours)

Observed control room activities during standdown and 70% vessel level (4/9 and 10, Carla 9.5 hours)

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Unit: 1 Date: 04-Apr-04 IR: -3 Inspector: MORRIS/HIG Time (Hrs): 16

Cornerstone: Initiating Events

Observations:

COOLDOWN

Observed placement of RHR in service using procedures OP-7A and IT- 03 D. Specifically observed open/shut timing test of P 10 A&B RHR pumps suction header MOV's. Tested satisfactorily. RHR placed I/S satisfactorily. Walkdown containment verify valve lineups and boron on valves. (4/3, Higgins, Morris 16 combined hours)

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Unit: 1 Date: 07-Apr-04 IR: -3 Inspector: HIGGINS/Karj Time (Hrs): 19

Cornerstone: Mitigation Systems

Observations:

DRAINDOWN/REDUCED INVENTORY CONDITIONS

Attended pre-job brief for OP-4D RCS Draindown procedure at 00:30 4/7/04. Estimated time to start draindown 0200 hrs. Observed draindown in control room. Draindown started approx. 0300 hrs. Draindown held up when LI-433A press. Cold cal. Level ind. Did not clearly go off scale as per procedure OP 4D. Draindown secured when RV water level reached 73% at 0638 hrs. CAP written on LI-433A which was reading 3% when RV water level read 73%.

Draindown re-commenced approx. 2300 hrs. Observed in control room. 4/7/04. Reduced inventory of 55% in RV entered at 2341 hrs. RV level of 22-25% reached and draindown secured at 0338 hrs.

Watched draining activities in control room while steam generators were being drained 4/7/04, 09:00 - 16:00. Observed operator indications, procedure use, and protected equipment. Reviewed licensee response and commitments to GL 88-17. Noted CAP 055413, core exit thermocouples were all disconnected when CRDM cables were disconnected. This is contrary to PB responses to GL 88-17, which licensee committed to keeping 2 thermocouples connected until just prior to RV head removal. Contacted WCC (Steve Bowe). Verified that 2 thermocouples were re-connected prior to entering reduced inventory.

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Unit: 1 Date: 09-Apr-04 IR: -3

Inspector: MORRIS/HIG Time (Hrs): 23

Cornerstone: Mitigation Systems

**Observations:**

**NOZZEL DAMS:**

Observed installation of nozzel dams in "A" & "B" steam generators on the mid- shift 04/09/04. Significant issues which occurred during the evolution included:

\* The first two jumpers on the "B" generator cold leg had to exit the bowl early and be cut out of their plastic hoods due to lack of air.

The first jumper had to exit the generator due to lack of air and had to be cut out of his plastic hood. After he was cut out, it appeared that a second jumper was going in without resolving the first jumpers problem. The NRC rep. observing the job (Higgins) asked the utility rep. in charge of the job (Harald Erdman) if he knew why the first jumper lost air. He said "no" and asked the Scientech member coordinating this generator if the problem was solved. The Scientec member said "yes", although it did not appear to me that this answer was completely thought out. At this point in time, in my opinion, the job should have stopped and air supply condition/ practices should have been reviewed and briefed with the workers. The second jumper went in to the bowl and had to exit the generator promptly due to lack of air and had to be cut out of his plastic hood.

Concurrent with, but slightly behind, this activity, the "A" generator cold leg dam was being installed by a second Scientech coordinator. Higgins asked Erdman if the team on the "A" generator was aware of the air problems occurring on the "B" generator. Erdman then went over and told the "A" generator Scientech coordinator to check the air supplies for everyone going in to the generators.

The dams on the "A" & "B" cold legs were completed without any more air problems.

The first jumper on the "A" generator hot leg had to exit the generator due to his air line "coming off". I do not believe he had to be cut out of his hood. The dam on this leg experienced problems with one of the bolt engagements. During this problem, the air line "tore off" one of the workers involved in trying to resolve the problem.

The entire nozzel dam job was placed on hold sometime around 6:00 A.M. due to a concern with a vent path for the RCS. Several different conflicting directions were given to Scientech regarding continuing with the job. Somewhere along the line, permission was apparently given to install the "B" generator hot leg and it was installed.

**KEY QUESTION:** Was there any time that the 2 hot leg dams were installed simultaneously prior to the establishment of another vent path. This is dependent on the time line for activity on the "A" & "B" hot leg dams. As it was not identified as an issue until after much activity had taken place on the dams and resulted in several conflicting directions being given on what to do with the hot leg dams, I can't be sure.

I left the coordination room about 0730.

Patrick C Higgins  
USNRC

During the 0600 OCC meeting the Site Director of Operations asked if there was a vent path

established prior to and during the installation of the nozzle dams. Someone in the meeting answered, "Yes, there was a vent path established." During the rest of the discussion about the work on the nozzle dams it was stated that there had been only one incident involving the air supply to the bubble suits. When Pat Higgins returned and informed me (Mike Morris) of his observation as stated above. A call was placed to inform the branch chief (Pat Loudon) and the decision was made to present the information to plant management (Jim Shaw and Jim McCarthy). They had not been informed of the other three incidents and did not know that a call came from the OCC to stop the work until a vent path was established. The residents informed plant management of the facts and the concern that work had not been stopped to determine the extent of the loss of a vent path and the industrial safety issues. Work was stopped on the nozzle dams by plant management and the situation was reviewed by several groups on site including NOS, Safety, Operations, OCC and management. During various discussions during the day the events as described above were substantiated and at 1900 engineering determined that the hot leg nozzles had been installed in both steam generators for 9 minutes. An NMC team is being formed to investigate the incident and perform a root cause.

R. Michael Morris (4/9/2004) 7.5 hours

Attended outage standdown presentations for OCC, engineering, operations and, RP. Morris 7.5 hours

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Unit: 1    Date: 10-Apr-04    IR: -3    Inspector: Morris    Time (Hrs): 15

Cornerstone: Initiating Events

Observations:

**FUEL MOVEMENT ACTIVITIES**

4/22 - observed radiation and operations briefs for fuel movement. (2.5 hours - Morris)

4/24 - observed fuel bridge manipulations and replacement of lights to better facilitate fuel movement - (5 hours - Morris)

4/25 - observed initial fuel movement and shuffle in containment and fuel movement in spent fuel pool - (7.5 hours - Morris)

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Unit: 1    Date: 17-Apr-04    IR: -3    Inspector: Karjala,    Time (Hrs): 22

Cornerstone: Mitigation Systems

Observations:

Outage activities:

- Observed OCC Turnover meetings and subsequent department briefings.
- Observed briefing for RCP motor lift
- Performed containment tours. Noted cable for headset rested on front of panel for S/G nozzle dam air supply - if bumped, could reduce/isolate air supply to nozzle dam. Notified WCC Shift Manager.
- Performed walkdown of protected equipment for reduced inventory conditions

Performed control room observations. (Palagi, 4/15 3 hours)

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Unit: 1    Date: 22-Apr-04    IR: -3    Inspector: Morris    Time (Hrs): 17

Cornerstone: Initiating Events

Observations:

FUEL MOVEMENT ACTIVITIES

4/22 - observed radation and opertions briefs for fuel movement. (2.5 hours - Morris)

4/24 - observed fuel bridge manipulations and replacement of lights to better facilitate fuel movement - (5 hours - Morris)

4/25 - observed initial fuel movement and shuffle in containment and fuel movement in spent fuel pool - (7.5 hours - Morris)

5/3 - reviewed sequence of events for outage specifically looking at first two weeks to determine if all significant items are captured. (2.5 hours - Morris)

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Unit: 1    Date: 24-Apr-04    IR: -3    Inspector: Karjala    Time (Hrs): 7.5

Cornerstone: Mitigation Systems

Observations:

Observed RV head lift.

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Unit: 1 Date: 24-Apr-04 IR: -3

Inspector: Karjala, Jorgen Time (Hrs): 23

Cornerstone: Mitigation Systems

Observations:

Observed activities associated with the core exit thermocouple protective cover that was inadvertently removed with the RV head.

Point Beach Nuclear Plant RV Head Lift Problem  
April 22, 2004

On Wednesday, April 21, 2004, Point Beach Unit #1 was in day 18 of a scheduled 30 day refueling outage (1R28). The RV head lift was observed by Duane Karjala, acting Resident Inspector, and Ryan Alexander, DRS RP Inspector. During the lift of the RV head from the vessel, when the head cleared the top of the guide studs, the lift crew supervisor noted that a protective cover (called a conoseal bullet nose), was still on the head, when it should have remained attached to the upper internals. This was one of three similar covers; the other two remained in place as designed.

The bullet noses function to protect core exit thermocouple connection wires from refueling water. They were installed after the thermocouples were disconnected as part of the head lift preparation activities. Each bullet nose attaches to the upper internals with a circular clip along with an O-ring to keep water from entering the bullet nose at the joint. Visual examinations were conducted, as required by procedure, when the head was approximately 1 foot and 4 feet above the vessel flange but no anomalies were identified.

When the anomaly was identified during the lift, the lift was stopped, and the situation was discussed by the lift crew personnel. It was decided to continue with the lift because the procedure does not permit lowering the head when it is above the top of the guide studs. The remainder of the lift was uneventful.

After the head was placed on the storage stand, it was observed that a rag was wrapped around the base of the bullet nose which dislodged with the head, and the rag was held in place with green duct tape.

Preliminary results from the licensee's investigation have determined that the rag and duct tape prevented the bullet nose from sliding through the opening in the head and caused the retaining clip to fail. The retaining clip and O-ring were found still installed at the base of the bullet nose. It remains to be determined why the rag and duct tape were installed and whether that was a violation of the licensee procedures.

The licensee developed a recovery plan. Water level in the refuel pool was raised approximately 2 feet above the RV flange to provide some shielding from the radiation from the upper internals. This plan involved suspending workers in a manlift basket from the polar crane to re-install the bullet nose.

Ryan Alexander is monitoring the recovery efforts (9.0 Hours) . Photos will be available later today.

On Thursday, April 22, NRC Consultant Bruce Jorgensen observed licensee activities to re-install the bullet nose, using the manlift basket as stated above. This included attending and observing the pre-job briefing, observing the organization and communication set-up inside the containment, and watching the actual installation of the dislodged bullet nose. The work was well coordinated and exhibited evidence of good prior planning and clear understanding of responsibilities. Radiation protection activities were well focused, occupational safety measures were established, and foreign material exclusion practices were appropriately followed. Two mechanics were suspended in the

manbasket, with appropriate tie-offs and lanyards to minimize basket movement. Actual implementation of the activity was completed in less than a half hour, of which only approximately 10 minutes was spent in the relatively high radiation area adjacent to the incore instrument leads. Individual worker exposures and cumulative job doses were well within pre-job estimates and control levels.

The completed work package was reviewed and no significant anomalies were noted.

4.5 hours (Unit 1): On Thursday (3.5 hr) and Friday (1.0 hr) April 22 and 23, observed activities to recover from the event involving the "bullet nose" for incore instrument leads coming off with the reactor vessel head during the head lift.

The inspector attended and observed the pre-job briefing. This briefing was quite thorough; it emphasized occupational and radiological safety, and correct performance of required steps. There was a free exchange of questions and suggestions. The work itself utilized a man-basket, suspended from the polar crane, to position two mechanics, along with the necessary tools and equipment, adjacent to the incore instrument tube, which extended from the reactor vessel internals. Measures were put in place to limit radiation dose-rates, but the work area necessarily remained a relatively high radiation dose area.

The maintenance activity was effectively executed. Overall command and control of the evolution was strong, and coordination among the participants was effective. No delays or mis-steps occurred. The mechanics completed the work in the elevated radiation area in about 10 minutes, incurring radiation doses well within the pre-job estimates and limits. Overall cumulative exposure for the job was likewise well below the pre-established limits.

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Questions or Inconsistencies to be resolved.

- Where are the guidance/procedure requirements for installing and removing the temporary FME protection (rag and duct tape)?

The Director of Site Operations verbally informed us that the installation and removal have been historically performed as skill-of-the-craft activities.

- Procedure 1RMP 9096, step 5.6.25 says, "While having cavity stationed person ensure the following, continue head lift to about four feet above RV flange AND hold.
- Head lift remains level.
  - NO control rod drives are moving with head.
  - NO unusual sound or vibrations are present."

Procedure RP 1A, step 5.37, says, "Lift the reactor vessel head about four feet above the flange with the observers watching control rods and thermocouple guide columns are NOT rising with the head."

Was the step in RP 1A performed and documented? Why are the two procedures inconsistent? Which procedure takes precedence?

- During the Just-In-Time information meeting, the pre-job briefing, and the discussion following discovery of the bullet nose problem, it was stated several times by several individuals that once the head is above the guide pins, the procedure requires that it cannot be lowered. This restriction can not be found in 1RMP 9096. What is the source of this restriction?

- Log entry on 04/21/2004 at 14:44 says, "Reactor Vessel head is approximately 3 feet from the top of the guide pins. Mechanical General Supervisor reports that it appears a bullet cover for one set of

thermocouples appears to have come up with the head." If the head was below the top of the guide pins, could/should the head have been lowered? Why or why not? Was lowering the head adequately evaluated?

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Unit: 1    Date: 24-Apr-04    IR: -3                    Inspector: Karjala                    Time (Hrs): 13

Cornerstone: Mitigation Systems

**Observations:**

Observed preparations and lift of 1B RCP motor.

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Unit: 1    Date: 08-May-0    IR: -3                    Inspector: Karjala                    Time (Hrs): 4.5

Cornerstone: Mitigation Systems

**Observations:**

Observed outage activities surrounding RV head flaw indication in penetration #26. Specifically, evaluated schedule revisions, repair plan, and 50.72 notification. Notified OCC of activities we wish to observe for remainder of the outage.

On 05/07/04, NI-31 source range channel spiked high. Cause could not be found. Channel declared OOS and WO initiated.

Also on 05/07/04, smoke seen coming from turbine building crane. Smoke stopped when crane was de-energized - no fire. Smoke came from brake.

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Unit: 1    Date: 11-May-0    IR: -3                    Inspector: Morris                    Time (Hrs): 5.5

Cornerstone: Barrier Integrity

**Observations:**

Observed internals being set in the vessel. Several of the rods were up when set was complete, but the only thing that had to be done was lift and reset the individual rods. Observed RP and reported to RP management (Dan Shaanon) that the RP coverage could have been better. They did not cover the person closest to the internals as they were lifted from the stand and as the lift rig was brought out of the water. (5/11 Morris 5.5 hours)

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Unit: 1    Date: 23-May-0    IR: -3                    Inspector: Morris                    Time (Hrs): 14

Cornerstone: Mitigation Systems

**Observations:**

Attending training and Carb for nozzle dams. (5/21, Morris 3 hours)

Attended challenge board for mid-loop operations and 2nd carb for nozzle dams. (5/22, Morris 4 hours)

Observed briefings, training and work performed for head lift and set. Job was well done and RP was very observant. (5/23, Morris 7 hours)

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Unit: 1    Date: 05-Jun-04    IR: -3    Inspector: Krohn    Time (Hrs): 11

Cornerstone: Mitigation Systems

Observations:

Unit 1 Containment Closeout Tour and CL 20 Review

Walked down polar crane, Unit 1 keyway in morning. Walked down rest of loops in afternoon with Rad tech. Licensee had 3 teams. I took about 3 hours for the afternoon tour. Found 5 items the licensee had missed and various small pieces of tape, tie wraps, pens etc. Nothing that would have prevented sump recirc. 5 items included loose lagging in top of PZR vault, tie wraps and sahrpie pen in B S/G vault, B S/G hot leg crunched lagging, scaffold pole next to C CFC, RAM tag, 8' elevation.

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Unit: 1    Date: 12-Jun-04    IR: -3    Inspector: Krohn/Morris    Time (Hrs): 3

Cornerstone: Initiating Events

Observations:

Krohn. 3.0 for WE 6/12/04. Watched turbine rolluyp and synch to grid. Slow and deiberate actions. Did not procedd in the face of uncertainty (unexpected gernator voltage alarms on rasing gen voltgae prior to synchg). One note in that the SRO (Hanna) during turbine rollup and synch got a little too close to action and talking to Aos on radio (controlling SW throttling vavle to LO cooler to control LO temp following intiatl turbine roll) than should have. Needed to maintain supervosory oversight role. Noted that OPS Mgr (Dungan) also caoutioned SM (Harper) on same subject while discussing unexpectd voltage alarms.

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**Sort By Inspection Procedure**

12-Jul-04

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**71111-22: Surveillance Testing (M95/B5)**

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**Unit: 1    Date: 04-Apr-04    IR: -3                    Inspector: Karjala/Jorgen    Time (Hrs): 9.5****Cornerstone: Initiating Events****Observations:****INTEGRATED SI TEST "B" "**

Watched parts of ORT-3B, Safety Injection Actuation with Loss of Engineered Safeguards AC (Train B). Delays in beginning sections of the tests due to problems (CAPs 55368, 55362, 55336). (Karjala & Jorgensen - 9 hours).

Watched conclusion of the restoration after the test. (4/5, Morris 0.5 hours)

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**Unit: 1    Date: 04-Apr-04    IR: -3                    Inspector: HIGGINS, Kar    Time (Hrs): 16****Cornerstone: Mitigation Systems****Observations:****INTEGRATED SI TEST "A"**

Test expected to start at 2300 hrs. on 4/5/04. Arrived on site at approx. 2100 hrs. Read ORT-3A procedure. Was advised test pushed back to 0100 4/6/04. Performed fire protection walkdown of risk sensitive areas in plant as identified on the plant daily risk report( aux. Bldg. 8' elev. In vicinity of RHR equip.).

No significant discrepancies Identified. Was advised ORT-3A test pushed back to 0200-0300. Read ORT-4D procedure in preparation for draindown. At approx. 0330 was advised ORT-3A again pushed back for unknown delay due to equipment setup issues but could be conducted within an hour or two. Plant work control center is keeping me informed as to progress.

ORT-3A latest schedule is delayed until new shift is in place. Expected start of first countdown is 8:30-9:00 AM 4/6/04.

- Surveillance Procedure ORT 3A, "Safety Injection Actuation With Loss of Engineered Safeguards AC (Train A) Unit 1. Sections 5.3 through 5.6 of this test were observed from the main control room. The inspectors found communications to be clear and complete, decision-making was conservative, actions met or exceeded procedure specifications, and all the results of these portions of the test were acceptable.
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Unit: 1    Date: 05-Jun-04    IR: -3    Inspector: Krohn    Time (Hrs): 3.5

Cornerstone: Mitigation Systems

Observations:

Unit 1 MSIVs, 1MS-2019, 1MS-2020. One stroked too fast, one too slow.

2020 stroked too slow. Licensee removed cover and found fuzzy braided cloth fouling contacts. Cleaned and removed. Stroked SAT. Need to look at past operability.

2019 stroked too fast. No corrective work done. Licensee stroked 3 more times SAT and then put back in service. Attributed cause to operator stop watch/ stroke mistiming. In other words human error. Need to look at paperwork and be sure nothing has actually changed.

6/8. 3.0 more. Finished looking at documentation. For 2019, valve was stroked 6 more times, all times very close together (within 0.2 seconds on a 20 - 27 sec stroke band). Also, 2P-29 vibrations and flow were unchanged between the first IT-9A and the second. Also, MOV traces were taken for each stroke with steam pressure (although traces were not included in the package, documentation says system engr. Looked at them and they were SAT). Also, 2019 was consistent in times for the previous 2 years (not degrading trends were apparent). All points to an operator error in using the stopwatch and reading the change of state on the main control board indicating lights.

For 2MS-2020, MOV cover was removed and continuity checks showed an open in the close contacts. Material identified and removed. Valve stroked 3 more times via IT-9A. All times in band and consistent with previous valves.

Past operability is probably not a concern. The last IT-09A performed 1 qtr. ago was SAT. 2019 was likely operable on 5/31 and had a human-error timing problem. Also, 2020 opened and hence would have performed the intended safety function to start the pump, it was the closing time that was an issue. Steam line break in 2020 line would be of low probability (intermsd of requiring 2020 to close and isolate a leak). In any case, licensee took prompt action at time of discovery.

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Unit: 1    Date: 23-Jun-04    IR: -3    Inspector: Morris    Time (Hrs): 2

Cornerstone: Mitigation Systems

Observations:

Reviewed the completed IT-03, RHR pump and valve test. (6/23, Morris 2 hours)

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*Temporary Modification.*

Unit: 1 Date: 08-Jun-04 IR: -3

Inspector: Morris

Time (Hrs): 7

Cornerstone: Barrier Integrity

**Observations:**

Reviewed the installation and 50.59 for Unit 1 containment purge and exhaust valve removal and flange installation. Discussed with Mario Medez about the reinstallation requirements when the unit returns to mode 5 and how the testing will be performed. Also noted that the TS 3.9.3 basis had been changed to only include the inboard valves but the design requirements in the FSAR still required inboard and outboard valves. (Morris 7 hours)

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**Sort By Inspection Procedure**

12-Jul-04

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**71153: Event Followup**

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Unit: 1 Date: 10-Apr-04 IR: -3

Inspector: MORRIS/HIG Time (Hrs): 34

Cornerstone: Mitigation Systems

**Observations:**

A special NMC team to review the events related to nozzle dam installation was formed. The scope of this team is :

Review the nozzle dam air supply issues on multiple steam generator jump attempts.

Review the violation of RCS vent path requirements when nozzle dams were installed.

My mission in this regard was to closely monitor the progress, methodology and conclusions of the investigatory team. I attended numerous team briefings and had numerous discussions with the team leader ( Paul Hardin- Palisades Dir. Of Site Ops. ). Several briefings were given to the senior resident and the Branch Chief( Pat Lauden) on the progress of this team. Attended the briefing by this team of the plant mgr. ( Jim Shaw). Then provided detailed feedback to P. Lauden. Scheduled a briefing of the NRC residents by P. Hardin of the team's findings. (Higgins- 30.0 hrs.)

2.0 hours (Unit 1): On Thursday, April 22, reviewed procedure, CAP, OE with respect to the "near miss" on reactor coolant system vent path not being maintained during steam generator nozzle dam installation.

The inspector examined procedures, drawings and associated controls relating to the draining of the reactor coolant system to a reduced inventory level while properly minimizing associated risk. (Jorgensen)

On 5/27/04, D. Karjala reviewed the Root Cause Evaluation report on the nozzle dam issues. Forwarded copies of site procedures on issue and use of respirators to Ryan Alexander in Region for use in possible finding.

MPA  
7/4/04  
RGA  
Unit: 2 Date: 03-May-0 IR: -3

Inspector: Karjala

Time (Hrs): 3

Cornerstone: Mitigation Systems

**Observations:**

2T-34A SI Accumulator Level Higher than TS. Reviewed Root Cause report and safety evaluation. Forwarded to SRA, Sonia Burgess.

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outside  
scope  
release