February 6, 2003

Mr. John L. Skolds
President and Nuclear Officer
Exelon Nuclear
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: NRC INSPECTION REPORT 05000295/20002-006(DNMS) - ZION

Dear Mr. Skolds:

On January 7, 2003, the NRC completed an inspection at the Zion Nuclear Station. The purpose of the inspection was to determine whether decommissioning activities were conducted safely and in accordance with NRC requirements. Specifically, the inspectors evaluated management oversight, decommissioning support activities, and spent fuel safety. At the conclusion of the inspection on January 7, 2003, the NRC inspectors discussed the findings with members of your staff.

The inspection consisted of an examination of decommissioning activities at the Zion Nuclear Station as they relate to safety and compliance with the Commission's rules and regulations. Areas examined during the inspection are identified in the enclosed report. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities in progress, and interviews with personnel.

Based on the results of this inspection, the NRC did not identify any violations.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

We will gladly discuss any questions you may have regarding this inspection.

Sincerely,
/RA/
Christopher G. Miller, Chief
Decommissioning Branch

Docket No. 05000295
License No. DPR-39

Enclosure: Inspection Report 05000295/2002-006(DNMS)

See Attached Distribution

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cc w/encl: Zion Nuclear Power Station Decommissioning Plant Manager
Regulatory Assurance Engineer - Zion
Chief Operating Officer
Senior Vice President - Nuclear Services
Senior Vice President - Mid-West Regional Operating Group
Vice President - Mid-West Operations Support
Vice President - Licensing and Regulatory Affairs
Director Licensing - Mid-West Regional Operating Group
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No.	05000295
License No.	DPR-39
Report No.	05000295/2002-006(DNMS)
Licensee:	Exelon Generation Company, LLC
Facility:	Zion Nuclear Station
Location:	101 Shiloh Boulevard Zion, IL 60099
Dates:	Illinois Department of Nuclear Safety (IDNS) Inspections August 26-28, 2002 September 16 -17, 2002 October 22-23, 2002 and November 6, 2002 Nuclear Regulatory Commission (NRC) Inspections November 19, 2002 and January 7, 2003
NRC Inspectors:	Roy J. Leemon, Decommissioning Inspector, DNMS Edward L. Kulzer, Decommissioning Inspector, DNMS
IDNS Inspectors:	Robert V. Ganzer, IDNS Safety Inspector Cliff K. Thompson, IDNS Safety Inspector Jane Yesinowski, IDNS Safety Inspector Richard J. Zuffa, IDNS Safety Inspector
Approved by:	Christopher G. Miller, Chief Decommissioning Branch Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

Zion Nuclear Station
NRC Inspection Report 05000295/2002-006(DNMS)

This routine decommissioning inspection covered aspects of licensee facility management and control, decommissioning support activities, spent fuel safety, and radiological safety. During the inspection, the plant was being maintained in a safe storage of the spent fuel condition, with no major decommissioning work activities in progress. The annual spent fuel pool heat-up rate surveillance test was performed during this period.

Decommissioning Performance and Status Review at Permanently Shut Down Reactors

- The licensee's staffing was adequate for the level of work being performed at the site. The staffing level and training met Technical Specification requirements. The licensee provided Nuclear General Employee Training (NGET) and certified fuel handler training, as required. (Section 1.1)

- The new plant manager met the qualification requirements found in ANSI [American National Standards Institute] N18.1, "Qualifications for ANSI 18.1-1971 Personnel (Management Personnel Only)." (Section 1.2)

- The inspectors determined that the licensee's assessment of the corrective action work orders appropriately identified issues and implemented corrective actions in a timely manner. (Section 1.3)

- The material integrity of structures, systems, and components necessary for the safe storage of spent fuel (SAFSTOR) and the conduct of safe decommissioning activities were appropriately monitored and maintained. The inspectors had no concerns with the observed housekeeping or fire protection conditions. (Section 1.4)

Decommissioning Support Activities

- Based on the physical inspections and/or reviews of calibration documentation for plant radiation monitors, the inspectors determined that radiation monitoring instrumentation was being adequately maintained. No concerns were identified. (Section 2.1)

- The spent fuel pool (SFP) heat-up rate decreased from 0.80°F per hour in 2001 to 0.72°F per hour in 2002, providing 31 more hours between normal operating temperature to the boiling temperature than existed in 2001. This increased the total time to achieve boiling in the SFP to approximately 169 hours. (Section 2.2)

- The inspectors had no concerns with the detail and quality of the Zion Shift Manager Logs. (Section 2.3)

Spent Fuel Safety

- The inspectors toured the area surrounding the SFP and reviewed equipment important to the defueled condition. The inspectors did not identify any adverse conditions. The SFP water leakage was very low, and the SFP level alarm switch calibrations were adequate. (Section 3.1)

- The inspectors did not identify any paths for siphoning or draining of the SFP. (Section 3.2)

Radiological Safety

- The licensee was maintaining dose levels ALARA [as-low-as-reasonably-achievable]. Total station staff exposure for 2002 was 130 millirem, which was well below the ALARA goal of 365 millirem. (Section 4.2)

- The licensee modified the lake discharge tank piping to prevent unmonitored releases of radioactive liquid to ensure public safety. The licensee also verified storage of solid radioactive waste and met the requirements specified in the Defueled Safety Analysis Report (DSAR). (Section 4.3)

Report Details[1]

Summary of Plant Activities

During the period covered by this inspection, the plant remained in safe storage of the spent fuel (SAFSTOR) with no major decommissioning work activities in progress. The licensee performed the annual spent fuel pool (SFP) heat-up rate surveillance test during this period. Major ongoing activities focused on the operation and maintenance of the equipment in support of the Spent Fuel Nuclear Island (SFNI).

1.0 Decommissioning Performance and Status Review at Permanently Shut Down Reactors

1.1 Organization and Facility Management (IP 36801)

a. Inspection Scope

The inspectors evaluated the licensee's staffing and training including Technical Specification requirements.

b. Observations and Findings

The licensee tracks required training for station personnel on a site training matrix. The inspectors reviewed the site training matrix, including the licensee's tracking and implementation of certified fuel handler and Nuclear General Employee Training (NGET). The licensee required quarterly NGET training, and biannual testing was given for the certified fuel handlers. The inspectors didn't identify any concerns with the training program.

There have been no changes in the level of staffing at the station. The inspectors reviewed control room-manning and determined that it met regulatory requirements as found in the Technical Specifications, Table 5.2.2-1, "Minimum Shift Crew Composition." The inspectors didn't identify any concerns regarding staffing levels.

c. Conclusions

The licensee's staffing was adequate for the level of work being performed at the site. The staffing level and training met Technical Specification requirements. The licensee provided NGET training and certified fuel handler training, as required.

1.2 Plant Manager's Duties

a. Inspection Scope

The inspectors interviewed the plant manager and reviewed his responsibilities and experience.

Note: A list of acronyms used in these "Details" is provided at the end of the report.

b. Observations and Findings

A new individual officially replaced the existing plant manager on October 21, 2002. The new plant manager has worked and/or held an operating license and a senior operating license at two of the licensee's operating nuclear stations. The new plant manager has over 20 years of experience.

The inspectors reviewed Procedure ZAP-500-09, "Certification of Participants to ANSI- [American National Standards Institute] Recognized Requirements for Plant Manager." One of the requirements is that the plant manager shall have ten years of responsible power plant experience and specifically, three years of nuclear power plant experience. The plant manager met the criteria specified in Procedure ZAP-500-09, as well as the criteria specified in ANSI N18.1, "Qualifications for ANSI N18.1-1971 Personnel (Management Personnel Only)."

c. Conclusions

The new plant manager met the qualification requirements found in ANSI N18.1, "Qualifications for ANSI 18.1-1971 Personnel (Management Personnel Only)."

1.3 Self-Assessment, Auditing, and Corrective Actions (40801)

a. Inspection Scope

The inspectors reviewed corrective action work orders issued from July 7 through August 8, 2002, to evaluate the corrective action and root cause process.

b. Observation and Findings

After reviewing corrective action work orders issued from July 7 through August 8, 2002, the inspectors discussed them with the licensee's staff. The inspectors focused on those conditions categorized as adverse to quality (CAQ) and the conditions not adverse to quality (CNAQ).

Work Order No. 00477492, "Discovery of Radioactivity on the Secondary Side of the SFNI," dated September 19, 2002, was classified as a CNAQ. The inspector discussed the basis for this classification with the radiation protection manager. Based on the review and discussion, the inspectors concluded that the work order was properly classified and that appropriate management reviews were completed.

The inspectors had no concerns with the other work orders reviewed during this inspection period. These work orders are listed in Appendix A, "Documents Reviewed."

c. Conclusions

The inspectors determined that the licensee's assessment of the corrective action work orders appropriately identified issues and implemented corrective actions in a timely manner.

1.4 Plant Tours to Evaluate Material Conditions and Housekeeping (IP 71801)

a. Inspection Scope

The inspectors toured areas of the plant including the control room, the Spent Fuel Nuclear Island (SFNI), and the auxiliary building to evaluate the material condition of structures, systems, and components (SSCs) necessary for the safe storage of spent fuel (SAFSTOR). The inspectors also evaluated the licensee's implementation of housekeeping and fire protection for these areas.

b Observations and Findings

The inspectors walked down accessible areas that contained SSCs for SAFSTOR. The material condition was acceptable. The inspectors did not identify any SSC conditions that impacted SAFSTOR. Housekeeping was acceptable. No fire hazards were identified, and no conditions were identified that were adverse to plant equipment or personnel safety. The status of spent fuel pool SSCs were being monitored in the control room, and the licensee staff were trending significant parameters.

c. Conclusions

The material integrity of structures, systems, and components necessary for SAFSTOR and the conduct of safe decommissioning activities were appropriately monitored and maintained. The inspectors had no concerns with the observed housekeeping or fire protection conditions.

2.0 Decommissioning Support Activities

2.1 Maintenance and Surveillance at Permanently Shutdown Reactors (IP 62801)

a. Inspection Scope

The inspectors conducted a physical inspection and reviewed maintenance and calibration documentation for the following plant radiation monitors: Spent Fuel Pool Area Radiation Monitor, Auxiliary Building Particulate and Noble Gas Radiation Monitor, and Unit 2 Vent Stack SPING [Station Particulate Iodine and Noble Gas].

The inspector reviewed the Zion Station schedule to assess whether the licensee adequately and effectively scheduled test and maintenance activities to ensure adherence to acceptable safety practices.

b. Observations and Findings

Although there were no calibrations in progress during the inspectors' visit to the station, the inspectors reviewed the calibration documentation associated with Station Radiation Monitors 0RT-PR30A (particulate monitor) and 0RT30B (noble gas monitor). Both instruments were associated with the Auxiliary Building Exhaust Ventilation Monitor and were correctly calibrated within the required calibration surveillance frequency.

During the physical inspection of radiation monitors, the inspectors were accompanied by licensee personnel. The inspectors had no concerns during the physical inspection of the monitors.

The inspectors reviewed the following documentation in lieu of actual observation of maintenance or surveillance tasks due to schedule limitations. The inspectors did not identify any concerns.

- Work Order No. 00334449, "Replacement of Erasable Programmable Read Only Memory (EPROM - a computer chip) and Sensor;" and

- Work Order No. 00386007, "Install Jumper, Remove, and Replace Smoke Detector."

The inspectors also physically inspected Radiation Monitors 2R1A-PR49 (Unit 2 Vent Stack SPING) and the ORI-AR03 (Spent Fuel Island Area Radiation Monitor). The documentation reviewed by the inspectors was complete and comprehensive. Documentation in the "Zion Station Schedule for Work Activities" indicated that all aspects of station maintenance were adequately addressed in a timely manner. The inspector interviewed the station maintenance manager to inquire about the performance of the scheduled work within the specified schedule times. Some slippage of scheduled activities occurred due to unexpected resource alterations. However, the maintenance manger indicated that there were appropriate margins in the schedule to ensure that activities were accomplished on time and in accordance with procedures.

c. Conclusions

Based on the physical inspections and/or reviews of calibration documentation for plant radiation monitors, the inspectors determined that radiation monitoring instrumentation was being adequately maintained. No concerns were identified.

2.2 Spent Fuel Pool Annual Heat-Up Rate Test

a. Inspection Scope

The inspectors reviewed Operation's Special Procedure OSP-01-002, Revision 0, "Spent Fuel Pool Heat-up Rate Procedure," with the licensee's staff.

b. Observation and Findings

The purpose of the heat-up rate test was to document the spent fuel pool (SFP) heat-up while the spent fuel nuclear island (SFNI) Cooling Tower Pumps were turned off.

The SFP heat-up test is performed annually, during the hottest months of the year. The result of 2001 SFP heat-up test was a heat-up rate of 0.80°F per hour. Results of the July 30 -31, 2002 test were as follows:

The SFP heat-up test was initiated at 12:00 p.m. on July 30, 2002, after spent fuel pool cooling was stopped. The test was terminated at approximately 12:00 a.m. on July 31, 2002, with fuel building ventilation restored at 8:00 a.m. on July 31, due to high humidity conditions in the fuel building. Only data obtained with the fuel building ventilation turned off was used to determine the SFP heat-up rate. There was a 14.4°F SFP

temperature increase over the 20-hour test duration with fuel building ventilation turned off. The resultant SFP heat-up rate was 0.72°F per hour, as expected.

The SFP cooling system maintains the SFP temperature between 90°F and 95°F. Assuming an initial SFP temperature of 90°F, it would take approximately 48 hours for the pool to heat up to the high temperature alarm at 125°F, and it would take approximately 169 hours for the pool to heat up to the boiling temperature of 212°F.

The SFP heat-up rate decreased from 0.80°F per hour in 2001 to 0.72°F per hour in 2002. The time to boil from the normal operating temperature increased by approximately 31 hours; therefore, the licensee's staff has more time to restore SFP cooling if it is lost.

c. Conclusions

The SFP heat-up rate decreased from 0.80°F per hour in 2001 to 0.72°F per hour in 2002, providing 31 more hours between normal operating temperature to the boiling temperature than existed in 2001. This increased the total time before boiling in the SFP to approximately 169 hours.

2.3 Operator Logs

a. Inspection Scope

The inspectors reviewed the Zion Shift Manager Logs for quality and detail relative to the operational status of equipment, surveillances, and maintenance activities.

b. Observations and Findings

The inspectors reviewed the Zion Shift Manager Logs from 2002, dated: July 1, July 5, July 6, August 15, August 13, August 22, September 7, September 19, September 20, October 4, October 5, October 7, December 12, and December 16, 2002, and from 2003, dated January 6.

The inspectors had no concerns with the detail or quality of these logs. Equipment realignments for operational activities and maintenance were adequately documented in the daily logs.

c. Conclusions

The inspectors had no concerns with the detail and quality of the Zion Shift Manager Logs.

3.0 Spent Fuel Safety (60801)

3.1 Cooling the Spent Fuel Pool

a. Inspection Scope

The inspectors verified the safe wet storage of spent fuel in the fuel building. Factors considered in the evaluation included: SFP instrumentation, alarms and leakage

detection; cleanliness control; chemistry of the SFP; criticality controls; SFP operation; and power supplies. The inspectors discussed monitoring SFP parameters with operations personnel which included an operator, the shift supervisor, and the operations manager.

b. Observations and Findings

The inspectors reviewed the Defueled Technical Specifications (DTS), Defueled Safety Analysis Report (DSAR), and various procedures relevant to the operation of the SFP. During a tour of the SFP area, the inspectors evaluated instrumentation readings, local electrical breaker positions, and local valve line-ups. The inspectors did not identify any problems or concerns.

On January 7, 2003, the SFP cooling system controlled the temperature of the SFP at 89°F; the SFP heat up rate was 0.72°F per hour; and the time it took to achieve the water boiling point in the SFP (with no SFP cooling) was 171 hours. The SFP level was at an elevation of 614 feet and 7 inches. These parameters were within procedural limits. The SFP boron concentration was 2016 parts per million (ppm) versus the Technical Specification limit of greater than 500 ppm.

The inspectors had a discussion with an operator who was performing his rounds in the fuel building. The inspectors learned that operators tour the fuel building twice each day, and the shift manager normally tours the fuel building once a day.

Licensee personnel completed the SFP leakage surveillance on October 21, 2002, and documented the surveillance in Work Order No. 00438405. The Work Order referenced Procedure TSS 15.6.104, "Determination of Spent Fuel Pit Liner and Transfer Canal Liner Leakage," Revision 2, to observe, estimate, and evaluate any leakage. The licensee staff monitored the SFP liner and transfer canal leakage and trended data on a six-month frequency. The results showed that the total leakage was 0.005 gpm, which was below the allowable 1 gpm leakage in the acceptance criteria. Per the evaluation, both the SFP and transfer canal leakages remained approximately the same as determined during a surveillance test performed on April 25, 2002. Based on the surveillance results, the engineer documented the recommendation that monitoring and trending of SFP leakage should continue on the same six-month frequency.

The SFP high/low level switch was last calibrated between January 16, 2001, and March 13, 2001. The calibration was done on a 4-year frequency and was tracked as a pre-defined "Preventative Maintenance Requirement (PMRQ)," No. 0012671101. The inspectors learned from a discussion with an instrument maintenance supervisor that the switch had a float mechanism and was calibrated using actual pool level. The high level resulted from the pool level being increased until the switch actuated the high level alarm. As the pool level decreased due to evaporation, the low level alarm was actuated. This occurred over a period of approximately two months. The 2001 surveillance results indicated that the high value level was slightly out of tolerance, and the low level value was within tolerance. Licensee personnel adjusted the high level alarm, retested it, and found it to be back in tolerance.

c. Conclusions

The inspectors toured the area surrounding the SFP and reviewed equipment important to the defueled condition. The inspectors did not identify any adverse conditions. Spent fuel pool water leakage was very low, and the SFP level alarm switch calibrations were adequate.

3.2 Siphon and Drain Protection for the Spent Fuel Pool

a. Inspection Scope

The inspectors reviewed the most current SFP anti-siphon hole blockage documentation and discussed skimmer operations with the operations manager while they walked down the area surrounding the SFP.

b. Observations and Findings

During a walkdown of the areas surrounding the SFP, the inspectors did not identify any deficiencies that could result in siphoning the SFP or the transfer canal, nor did inspectors identify any items that could fall into the pool during a seismic event. The SFP water was very clear, with no visible debris on the surface. The equipment providing makeup from Zion city water lines to the SFP was maintained in acceptable material condition. Spare filters were available nearby to replace used filters. Valves were clearly marked in the event that a bypass around the filters was required to makeup water to the pool.

During a discussion with the operations manager, the inspectors determined that the system design features and physical limitations would preclude siphoning the SFP during skimmer operations.

The inspectors found that Zion Administrative Procedure, ZAP 110-02, Revision 13, "Procedure Process Control," contained requirements for processing a new procedure or for making changes to an existing procedure. There were requirements within this procedure (Step 1.7.1) for an anti-siphon review of evolutions associated with or around the SFP. Station Operating Instruction SOI-75P, Revision 10, "Spent Fuel Transfer Canal Operations," contained guidance to use when performing evolutions within the transfer canal that could cause siphoning to occur. Also, Procedure AOP-6.2, Revision 2, "Spent Fuel Pit/Transfer Canal Uncontrolled Loss of Level," contained steps to be taken if water was being lost from the SFP, including checking for hoses in the SFP which could cause siphoning. The procedures were adequate in addressing the prevention of siphoning of the pool.

The licensee staff inspected the SFP anti-siphon hole for blockage on October 21, 2002, and they documented the inspection using Work Order Task No. 99282220 01. The verification was done on an 18-month frequency and was tracked by the work control process. No blockage was identified.

c. Conclusions

The inspectors did not identify any paths for siphoning or draining of the SFP.

4.0 Radiological Safety

4.1 General

The inspectors conducted reviews of ongoing activities in order to assess the overall as-low-as-reasonably-achievable (ALARA) practices.

4.2 Occupational Radiation Exposure (83750)

a. Inspection Scope

The inspectors reviewed and evaluated external and internal dose controls and practices used to maintain exposures ALARA.

b. Observations and Findings

The licensee's total station exposure for calendar year 2002 was 130 millirem. These exposures were below the ALARA goal of 365 millirem.

The inspectors reviewed nine Zion Station Exposure Record documents covering daily exposures during this inspection period, and they did not identify any concerns.

c. Conclusions

The licensee was maintaining dose levels ALARA. Total station staff exposure for 2002 was 130 millirem, which was well below the ALARA goal of 365 millirem.

4.3. Radioactive Waste Treatment, and Effluent and Environmental Monitoring (IP 84750)

a. Inspection Scope

Inspectors reviewed the applicable portion of Engineering Change 336587 which addressed the cutting and capping of the lake discharge tank cross-connect piping. Inspectors interviewed the Zion Radiation Protection Manager to assure that there was no potential for an unmonitored release. The inspectors also reviewed the licensee's storage requirements for storing solid radiological waste.

b. Observations and Findings

The inspectors reviewed the licensee's engineering change to cut and cap the cross-connect piping from the lake discharge tanks and concluded that there was no potential for an unmonitored release. The licensee removed the section of pipe that contained several small leaks thereby lessening the potential for an unmonitored release of radioactive liquid. The inspectors interviewed the Radiation Protection Manager and discussed the licensee's focus and attention in this area, including plans for future inspection activities. The inspectors concluded that the licensee was performing the engineering change to avoid unmonitored radioactive liquid release. The inspectors verified that solid radiological waste was being stored according to the regulatory requirements specified in the Defueled Safety Analysis Report (DSAR).

c. Conclusions

The licensee modified the lake discharge tank piping to prevent unmonitored releases of radioactive liquid to ensure public safety. The licensee also verified storage of solid radioactive waste and met the requirements specified in the Defueled Safety Analysis Report (DSAR).

5.0 Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management during an exit meeting on January 7, 2003. The licensee acknowledged the findings presented and did not identify any of the documents or processes reviewed by the inspectors as proprietary.

PARTIAL LIST OF PERSONS CONTACTED

* A. Daniels, Plant Manager
* J. Ashley, Design Engineering
* K. King, Maintenance Supervisor
* R. Landrum, Operations and Engineering Manager
* M. Petersen, Administrative Manager
* R. Schuster, Radiation Protection and Chemistry Supervisor
* B. Leydens, Security Manager
* V. Voigt

* Present at the January 7, 2003 exit meeting.

INSPECTION PROCEDURES (IP) USED

IP 36801: Organization, Management, and Cost Controls at Permanently Shut Down Reactors

IP 40500: Effectiveness of Licensee Process to Identify Resolve and Prevent Problems

IP 40801: Self-Assessment, Auditing, and Corrective Actions

IP 60801: Spent Fuel Pool Safety at Permanently Shut Down Reactors

IP 62801: Maintenance and Surveillance at Permanently Shut Down Reactors

IP 71801: Decommissioning Performance and Status review at Permanently Shut Down Reactors

IP 83750: Occupational Radiation Exposure

IP 84750: Radioactive Waste Treatment, and Effluent and Environmental Monitoring

ITEMS OPENED, CLOSED AND DISCUSSED

Opened

None

Closed

None

Discussed

None

Note: There are no items open at Zion at present.

LIST OF ACRONYMS USED

ALARA	As-Low-As-Reasonably-Achievable
CAQ	Condition Adverse to Quality
CFR	Code of Federal Regulations
CNAQ	Condition Not Adverse to Quality
DSAR	Defueled Safety Analyses Report
DSEP	Defueled Station Emergency Plan
DTS	Defueled Technical Specifications
EAL	Emergency Action Level
IDNS	Illinois Department of Nuclear Safety
IFI	Inspector Follow-up Items
IP	Inspection Procedure
NGET	Nuclear General Employee Training
NRC	Nuclear Regulatory Commission
mrem	millirem
SAFSTOR	Safe Storage of the Spent Fuel
SFB	Spent Fuel Building
SFNI	Spent Fuel Nuclear Island
SFP	Spent Fuel Pool
SOI	Station Operating Instruction
SPING	Station Particulate Iodine and Noble Gas
SSC	Structures, Systems, Components
WR	Work Request
ZAP	Zion Administrative Procedure

Documents Reviewed

Calibration Documentation for Area Radiation Monitors
Calibration File Folders for Instruments 1200 and 1211
DSAR, ”Defueled Safety Analysis Report”
DSEP, “Defueled Station Emergency Plan”
DTS, “Defueled Technical Specifications”
Exelon Nuclear Zion Station Scorecard - November 2002
Zion Station Schedule - 01/02/03
Radioactive Waste Processor Checklist - RP-AA-600-1005 Revision 0 - 10/22/02
Zion Station Organization Chart (10/21/02)
Zion Station Tracking List - 10/31/02
Zion Issue Tracking List - 11/21/02
Plant Status - 11/19/02
Plant Status - 01/07/03
PSAR, “Post Shut-Down Activities Report”
Shift Manager’s Logs
Zion Station Work Activities Schedule
Zion Technical Specifications

Work Orders Reviewed

Work Order Number	Title
00438128	“Spent Fuel Pool Nuclear Island Exhaust Fan Belt Fails When Unit Is Put in High Speed.”
00442395	“OB Fire Pump Check Valve Failed to Open During Performance Test 201."
00458718	“Fire Protection System Wiring Discrepancy.”
00451457	“Water Transfer from BAMT [boric acid monitoring tank] to HUT [hold up tank].”
00461476	“Broken Arrester Causes Small Grass Fire.“
00434749	“GOP [General Operating Procedure] Test Switch Found Closed.“
00459767	“Determine Why 1b Stator Filter Only Lasted 11 Days.“
00472151	“Fan for 0A [Unit 0 A Tank] SFNI Cooling Tower Will Not Operate as Intended.“
00472152	“Fan in Auto High Speed Intermittently Secures.“
00477310	“Contractor Cut Heat Trace Wire When Cutting Water Line.“
00477492	“Discovery of Radioactivity on the Secondary Side of the SFNI.”
00470357	“Review of 2F-PR53 Calibration Delays.“

00483437	“TSC [Technical Support Center] Smoke Detector Zone 1 Failed.“
00483651	“Determine If TSC Fire Detection Should Be De-energized.“
00460640	“False Fire Alarm in Cribhouse.”
00472232	“Loss of Water to the Warehouse and Fabrication Shop.”
00495388	“Level Indication Is Failed High-Pressurizer Relief Tank.”
00506280	“Washer In/around U2 Exciter Inboard Diode Wheel.”
00517682	“Operating Performed PT-235 on QA [quality assurance] Vault Without CF Present.”
00516089	“IDNS Inspection Observation.”
00063414	“SFNI Feeder Line 8215 (Momentary Loss of Power on Line 8215 at Approximately 930 Am on 9/2/02, Line 8215 Momentary Lst Power).”
00063541	Misc Information (Coast Guard Contacted about Flare Seen over the Lake. Notified Ops Manager and Left Voice Mail for NRC Resident.)
00063921	Failed Smoke Detector in Technical Support Center (TSS) Zone 1(TSS Smoke Detector Zone 1 Failed. Detector Failed Causing False Alarm. Zion Fire Department (ZFD) Responded. 1. Issue Review to M. Rode. 2. Replace Smoke Detector.)
00065520	SFNI Switchgear Bus 1 (Loss of SFNI Feeder a 151 Due to Lighting Strike During Storm. Nuclear Duty Officer, and Roy Leemon Region 3 NRC of Loss of SFNI Power.)
00067631	Electrical, Misc Work in the SF System for Unit 0 (Loss of Line 8215. A Tree Contacting the Conductor Believed Due to the Winds in the Area.)
00067801	Electrical, Misc Work in the SF System for Unit 0 (Momentary Loss of SFNI Feeder A-8215.)
00070768	Staffing less than T. S. 5.2.2 Table 5.2.2-1 (Time the Site Was less than the Minimum Shift Crew Composite on Was 1 Hour 5 Minutes. NDO and NRC Inspector Notified.)
00072960	Installation of Dedicated Phones in Control Room for DSEP [Defueled Station Emergency Plan] Corrective Action from the DSEP Exercise Held on 11/6/02 Install Dedicated Phones with Dedicated Numbers for Each of the Directors. Emergency Director/rad Protection Director Technical Director and the Communicator.
00072963	Install an Alarm in Central Alarm Station for Both the Fire and the DSEP Alarms Identified During the Exercise That There Is Not an Alarm in Central Alarm Station for Either the Fire or DSEP Alarms Station Needs to Address this with a Reliable Method for Alerting Personnel.

00072965	Members of the DERO Receive Training on Emergency Notification System (ENF) Form Training Issue from Drill Train Members of the Team on Completion of the ENF Form. Locations That the Form Is Kept Timely Response.
00072967	Train DERO on Escalation Pathways from Emergency Action Levels (EAL).
00072969	Train DERO on Notification Timeliness.
00072984	Review 2002 Exercise During 2003 Required Training this Review Shall Include the Use of the Status Board.
00073205	Review of the DSEP Call out Process Please Issue Follow-up Item to Review the Following: the Order in Which RHW Call out Is Performed. Phone #'s First Then Beepers. Provide a Paper Trail for Augmentation Drills in the Future. Schedule Review for the Emergency Directors Review of the Corporate Policy for the E-Plan to Align with Policy Changes Post 9-11.
00073207	Training Issue Identified During the DSEP [Defueled Station Emergency Plan] Exercise NARS Form.
00075431	No Calibration Stickers on In-Service Radiation Monitors.
00076544	Local Law Enforcement Agency (LLEA) Letter of Agreement.
00077040	Loss of ENS NARS [Nuclear Accident Reporting System] and Commercial Phones.
00076662	NRC Info Notice 2002-10, "Nonconservative Water Level Setpoints on Steam Generators."
00076664	NRC Info Notice 2002-15, "H2 Combustion Events in Foreign BWR Piping."
00076666	NRC Notice 2002-16, "Intra Vascular Brachytherapy Misadministrations."

Procedures Reviewed

Abnormal Operating Procedure 6.2, "Spent Fuel Pit/Transfer Canal Uncontrolled Loss of Level," Revision 2.

"Auxiliary Building Heating System Valve Line-up SOI-71 Appendix B," Revision 3, 9/15/97.

"Determination of Spent fuel Pit Liner and Transfer Canal Liner Leakage," TSS 15.6.104, Revision 2, 9/28/98.

"Placing Auxiliary Building Heating or Cooling System in Service SOI-71C," Revision 5, 9/25/99.

"Placing Hot Water Heating System In Service Without Auxiliary Steam Pressure SOI-71A," Revision 6, 11/15/01.

“SARS [Station Alarm Response Sheet] ARM U1 Panel 25, O Unit Radiation Monitor Transmitter (ORT)-AR03,” Revision 5.

“SARS ARM U1 Panel 25; ORT-AR03,” Revision 5 .

“Station Alarm Response Sheet (SARS) Spent Fuel Pit Temperature High,” Revision 6, 4/20/00, Card Nos. 6, 7, and 8.

Station Operating Instruction SOI-75P, “Spent Fuel Transfer Canal Operations,” Revision 10.

Unit 0 A [Unit 0 A Tank] Lake Discharge Tank ZCP [Zion Chemistry Procedure] 421-1, "Zion Station Liquid Release,” 11/6/02, Revision 15.

“Winter Operation Verification PT-15W,” Revision12, 9/13/02.

Zion Administrative Procedures 100-06, “10 CFR 50.59 Review Process,” 10/16/02.

Zion Administrative Procedure ZAP 110-02, “Procedure Process Control,” Revision 13.

“Zion Operators Special Procedures OSP 01-002,” Revised.

“Zion Station Alarm Response Sheet ARM U1 Panel 25,” Revision 5, ORE-0005.

Zion Station Fire Protection Procedures