

November 27, 2000

Mr. Oliver D. Kingsley  
President, Nuclear Generation Group  
Commonwealth Edison Company  
ATTN: Regulatory Services  
Executive Towers West III  
1400 Opus Place, Suite 500  
Downers Grove, IL 60515

SUBJECT: NRC INSPECTION REPORT 50-295/2000-04(DNMS); 50-304/2000-040(DNMS)

Dear Mr. Kingsley:

On November 14, 2000, the NRC completed an inspection at your Zion 1 and 2 reactor facilities which examined decommissioning activities. The enclosed report presents the results of that inspection.

During this inspection, activities in the areas of facility management and control, decommissioning support, spent fuel safety, and radiological safety were examined. Overall performance in these areas was good. Routine activities were being conducted and verified to ensure that the condition of the plant and important systems were well maintained.

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

Sincerely,

**/RA/**

Bruce L. Jorgensen, Chief  
Decommissioning Branch

Docket Nos. 50-295; 50-304  
License Nos. DPR-39; DPR-48

Enclosure: Inspection Report 50-295/2000-04(DNMS); 50-304/2000-04(DNMS)

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-295; 50-304  
License Nos: DPR-39; DPR-48

Report No: 50-295/2000-04(DNMS); 50-304/2000-04(DNMS)

Licensee: Commonwealth Edison Company

Facility: Zion Nuclear Plant, Units 1 and 2

Location: 101 Shiloh Boulevard  
Zion, IL 60099

Dates: October 11-November 14, 2000

Inspectors: R. J. Leemon, Decommissioning Inspector, DNMS  
J. L. Roman, Illinois Department of Nuclear Safety  
J. Yesinowski, Illinois Department of Nuclear Safety

Approved By: Bruce L. Jorgensen, Chief  
Decommissioning Branch  
Division of Nuclear Materials Safety

## **EXECUTIVE SUMMARY**

Zion Nuclear Plant, Units 1 and 2  
NRC Inspection Report 50-295/2000-04(DNMS); 50-304/2000-04(DNMS)

This routine decommissioning inspection covered aspects of facility management and control including the annual emergency exercise, decommissioning support activities, spent fuel safety, and radiological safety. Overall, the licensee performed well in these areas. The major decommissioning activity was maintaining the plant in SAFSTOR (safe storage of the spent fuel).

### Facility Management and Control

- The annual emergency plan performance exercise satisfactorily demonstrated the implementation of the Zion Decommissioned Station Emergency Plan.
- The corrective action process was being implemented in accordance with NRC requirements and licensee procedures.
- Action on the requirements of an Order imposing a civil penalty (EA-98-51B) were evaluated and the inspection follow-up item was closed.

### Decommissioning Support Activities

- The maintenance program was functioning well and work activities were effectively discussed and prioritized at work status meetings.
- The licensee has completed checklists and maintenance to provide heating to the spent fuel nuclear island to protect SFP cooling equipment against extreme cold weather.

### Spent Fuel Safety

- The safety of the stored spent fuel was being maintained by the new SFP cooling and ventilation systems. Temperature was being controlled at about 90°F with a heat up rate of 0.86°F per hour.
- The licensee was adequately assuring the spent fuel pool is kept in a safe condition, including adequate procedures and methods to determine leakage.
- The spent fuel was safely cooled during a partial loss of electrical power to the SFNI.

### Radiological Safety

- The Zion Station combined exposure for September and October, 2000, was 30 person-mrems, far below the ALARA goal of 336 person-mrems. Activities performed within the last 2 months resulted in exposures that were ALARA.

## **Report Details**

### **Summary of Plant Activities**

Since the previous inspection, the plant remained in SAFESTOR with no major work activities. On October 18, 2000, the spent fuel nuclear island had a partial loss of electrical power, but SFP cooling was not lost and the fuel remained safely cooled. On November 8, 2000, the licensee successfully completed the annual Defueled Station Emergency Exercise.

## **1.0 Facility Management and Control**

### **1.1 Organization, Management, and Cost Controls at Permanently Shutdown Reactors (36801)**

The inspections evaluated management systems to ensure proper control, evaluations and management of reactor decommissioning activities. The inspectors reviewed the licensee's decommissioning organization, staffing, qualifications and training including that of contractors. The inspectors verified that NRC requirements were being met, including requirements detailed in the plant Defueled Technical Specifications (DTSs), Offsite Dose Calculation Manual (ODCM), and Defueled Safety Analysis Report (DSAR). Also, the inspectors observed or reviewed the licensee's decommissioning plans and schedules.

### **1.2 Actions to Address a Safety Conscious Work Environment Issue**

#### **a. Scope**

The inspection reviewed licensee actions to establish and maintain a safety conscious work environment. Licensee actions and commitments in this area to address past issues were reviewed, as well as current interviews and evaluations which are discussed in Section 1.5 of this report.

#### **b. Observations and Findings**

In 1997, the NRC and the licensee both determined that some employees at Zion believed they could be subject to retaliation or other discriminatory action for bringing issues forward for evaluation and resolution. Both reactor units at Zion were shut down at the time. A public meeting and a series of correspondence addressed these circumstances, concluding with agreement between the parties that a second public meeting would be held prior to startup of either reactor. A licensee letter dated December 5, 1997, also contained a list of actions to be completed prior to restart.

In early 1998, the licensee decided that neither reactor would be returned to service, and notified NRC to that effect. This made moot a number of the planned actions contained in the December 5, 1997 letter. A subsequent letter dated April 15, 1999, superseded the December 1997 letter and provided a description of actions to ensure a safety conscious work environment at the permanently shut down plant.

One case from 1997 led to enforcement issues, and a series of correspondence addressed these issues in late 1999 and early 2000. The licensee's letter dated

August 11, 2000 informed NRC that a civil penalty of \$110,000 had been paid by electronic funds transfer that date, in order to close this case. For Tracking purposes, an inspector followup item was opened and closed in this report; see Section 1.6.

The inspectors also reviewed licensee performance in this area by conducting interviews with staff and by examining applicable licensee procedures and practices. Section 1.5 of this report contains a detailed discussion of this inspection and interviews.

c. Conclusions

Appropriate actions have been taken to address one past issue regarding safety conscious work environment. The NRC inspection program to be conducted in the near future will address this issue on a generic, current basis.

1.3 Decommissioning Performance and Status Review at Permanently Shut Down Reactors (71801)

1.3.1 General

The status of decommissioning and the licensee's conduct of decommissioning activities, in accordance with licensed requirements and commitments, were evaluated. Control and conduct of facility decommissioning activities were examined to verify that the license, DTS requirements, and commitments described in the DSAR, the PSDAR and the Emergency Plan were being met.

1.3.2 Monitored Decommissioning Activities

The inspectors attended licensee meetings where the planning, reviewing, assessing, and scheduling of decommissioning activities were observed.

Meetings attended by the inspectors were as follows:

- Zion Station Schedule
- Zion Station Priority
- Health Physics Individual Department

The inspectors ascertained that activities were in accordance with licensed requirements and docketed commitments as stated in 10 CFR, DTSs, PSDAR, Regulatory Guide 1.33, and station procedures.

1.3.3 Plant Tours to Evaluate Material Conditions and Housekeeping

a. Inspection Scope

Plant tours were performed to evaluate the material integrity of structures, systems, and components necessary for the safe storage of spent fuel, and to evaluate plant housekeeping. The inspectors accompanied the operation manager on a tour of the spent fuel nuclear island, (SFNI).

b. Observations and Findings

The spent fuel pool area and support systems areas were clear and free of obstacles and hazards. No fire hazards were observed. No degradation of structures, systems, and components important to the defueled condition were observed.

During a plant tour with the regulatory engineer, the inspector pointed out bare wires on top of duct work. This was discussed with the plant manager and the wires were observed to be properly taped during a subsequent plant tour. The SFNI floors and piping were painted to improve material conditions and to improve contamination control in the event of radioactive water spilling onto the floor. Generally, the plant was maintained in good condition and all radiological areas were adequately marked. Monitoring systems required to maintain the SFNI were in good working order and there were no issues of concern in this area.

c. Conclusions

The material integrity of structures, systems, and components necessary for the safe storage of spent fuel and conduct of safe decommissioning has been maintained. Plant housekeeping was good and was monitored by plant management. Material condition of the SFNI was improved by painting pipes and floors.

1.3.4 Defueled Station Emergency Plan (DSEP) (36801)

a. Inspection Scope

The inspector observed the Zion Nuclear Plant Defueled Station Emergency Plan (DSEP) annual exercise held on November 8, 2000. The inspector evaluated the DSEP implementation including that of the Emergency Response Organization (ERO). The inspector also briefly interviewed the Emergency Preparedness Coordinator (EPC) concerning aspects of the DSEP and the exercise.

b. Observations and Findings

The licensee's performance in the annual DSEP exercise was satisfactory. The Emergency Response Organization (ERO) was adequately implemented during the November 8, 2000, exercise. The exercise scenario event classifications and notifications were made consistent with the DSEP Emergency Action Levels (EALs). The simulated event was appropriately mitigated. The exercise was self-critiqued and was evaluated by the licensee's Corporate Emergency Plan observers. A Corporate Nuclear Oversight inspector also was present to evaluate the exercise. This evaluation was part of a Corporate Nuclear Oversight audit of the Zion Nuclear Plant DSEP.

c. Conclusions

The annual emergency plan performance exercise satisfactorily demonstrated the implementation of the Zion Decommissioned Station Emergency Plan (DSEP).

#### 1.4 Safety Reviews, Design Changes and Modifications (37801)

##### a. Inspection Scope

The inspector reviewed a selection of licensee Screening/Safety Evaluations. The inspector reviewed the licensee procedure for Safety Reviews and discussed the safety review process with licensee personnel.

##### b. Observations and Findings

The inspector verified that station procedure ZAP-100-06, revision 15, "Safety Review and Approval," appeared adequate and was being followed. Screening/Safety Evaluations reviewed were performed correctly. The persons signing as performing the evaluations and as reviewing the evaluations were listed on the licensee list of qualified personnel. The licensee performs self-assessments to determine the effectiveness of the safety evaluation program.

##### c. Conclusions

The licensee's safety reviews met the requirements and appeared adequate to assure public health and safety. Qualified personnel were performing the safety reviews.

#### 1.5 Self-Assessments, Auditing, and Corrective Actions (40801)

##### a. Inspection Scope

The inspection evaluated the corrective action program with regard to the identifying, resolving, and prevention of issues that degrade safety or the quality of decommissioning. Fifteen plant Action Requests (ARs) were reviewed, emphasizing those Action Requests designated as Conditions Adverse to Quality (CAQ) from the previous two-month period. The inspector also reviewed Zion Administrative Procedure ZAP 700-02, "Corrective Action Program and Action Request Process," Revision 7, and interviewed the Zion Onsite Corrective Action Coordinator. Finally, the inspector interviewed five Zion workers including two management personnel concerning the corrective action process and the identification and resolution of concerns or issues at the Zion Plant.

##### b. Observations and Findings

Zion Administrative Procedure ZAP 700-02, "Corrective Action Program and Action Request Process," Revision 7, provides for the implementation of the corrective action (CA) process. Elements of the CA process include the identification of a problem, abnormal condition, or safety issue by the initiation of an Action Request (AR) and/or report to a supervisor, resolution of the problem, and provision for feedback to the initiator. The Condition Review Group (CRG) reviews all ARs and assigns significance levels or classifications and additional actions, if applicable. Significance levels are Condition Adverse to Quality (CAQ), Significant Condition Adverse to Quality (SCAQ), or Condition Not Adverse to Quality (CNAQ). Additional actions include Root Cause Report (RCR), Trend Investigation Report (TIR), and Apparent Cause Evaluation (ACE).



During the selection of fifteen Action Requests for review, the inspector found that Action Requests were being written and classified. The inspector found that one-hundred-and-forty-six ARs were written from August 31, 2000, through October 29, 2000. Also, for the fifteen Action Requests reviewed, classifications were appropriate. The ARs documented resolution of the issues, which were either accepted or pending review. During this inspection, the inspector did not verify the resolution tracking process including whether or not the actions were completed.

During the worker interviews, the inspector discussed the corrective action process generally, including whether there were any problems with management, whether concerns were being raised and taken care of, and what kind of feedback was being received.

Based on the interviewee's responses, the inspector found that in each case, the worker:

- (1) had no problems with corrective action program management;
- (2) used or would use the AR process to document any concerns or adverse conditions;
- (3) would use the AR process or bring to their supervisor's attention any safety issue; and
- (4) was cognizant of feedback methods provided for in the AR process such as asking the supervisor about the disposition of the issue or getting the AR document themselves to find its resolution. (Note: There was a worker expectation that the supervisor would tell the worker the resolution of the concern or issue.)

At least three interviewees had used the AR process to document plant conditions. The inspector did not find any instance where a worker experienced any adverse action or discrimination for using the AR process. In one case a worker stated that he discussed a concern with his supervisor, but when questioned whether or not he wrote an AR, he stated that he just did not think of using the AR process for the particular concern. He was cognizant that he could have written an AR. It appeared the worker had no perception of any negative consequences if he had written an AR.

The inspector also found from the interviews that safety was being routinely discussed and emphasized during day-to-day activities.

c. Conclusions

In general, the corrective action process was being implemented and was in accordance with NRC requirements and licensee procedures. Station workers were effectively using the corrective action process.

1.6 Onsite Follow-up, Written Reports of Non-routine Events at Power Reactor Facilities (92700)

Closed IFI 05000295/2000002-01 Review of Training Matrix: Work Request Task 990156866 06, "Develop a Training Requirements Matrix for Long Term Zion Organization (LTZO) Members" was processed. This matrix was developed and an audit of all LTZO personnel training records was completed by October 9, 2000. The

audit confirmed that required license training for all licensee plant staff was current, and no deficiencies were found during the audit. This inspector follow-up item is closed.

Open; Closed IFI 05000295/2000004 and IFI 05000304/2000004: An Order imposing a civil monetary in the amount of \$110,000 was followed up during this inspection. As discussed in Section 1.2 above, the case involved events from 1997. The penalty was paid, and inspection showed discrimination or retaliation for raising concerns are not a current issue at Zion. This item is closed.

## **2.0 Decommissioning Support Activities**

- 2.1 The inspection evaluated support activities for structures, systems, and components that could affect the safe storage of spent fuel and reliable operation of radiation monitoring equipment. Direct observations, reviews, and interviews of licensee personnel were conducted to assess whether maintenance and surveillance were performed in accordance with regulatory requirements and resulted in the safe storage of spent fuel and reliable operation of radiation monitoring and effluent control equipment. This included the proper implementation of DTSS, DSAR, and 10 CFR 50, Appendix B requirements. The inspectors also evaluated SFP operations including SFP heat up rate, SFP instrumentation, alarms, and leakage detection, SFP chemistry and criticality controls.

### **2.2 Maintenance and Surveillance (62801)**

The maintenance program relative to safe storage, maintenance, and control of spent fuel was evaluated. The NRC inspectors attended maintenance briefings to determine if maintenance activities were on schedule and were keeping pace with plant shutdown activities. The maintenance program was functioning well and work activities were effectively discussed and prioritized at work status meetings.

### **2.3 Cold Weather Preparations (71714 )**

#### **a. Inspection Scope**

The inspector reviewed cold weather procedures and checklists, held discussions with licensee management, toured the SFNI, and observed maintenance on SFNI electric space heaters to determine whether the SFNI would be protected against extreme cold weather.

#### **b. Observation and Findings**

The licensee has completed the SFNI portion of procedure PT-35W, "Winter Operation Verification". The SFNI local electric space heater, SFNI ventilization system heaters, emergency spare electric space heaters, and secondary cooling system heat tracing are powered by the two SFNI busses. The SFNI ventilization system also has electric heaters as the means of heating the SFNI. The station heating boiler is not required to heat the SFNI or SFNI cooling equipment heat tracing.

c. Conclusion

The licensee has completed checklists and maintenance to provide heating to the spent fuel nuclear island to protect SFP cooling equipment against extreme cold weather.

**3.0 Spent Fuel Safety (60801)**

3.1 Cooling the Spent Fuel Pool

a. Inspection Scope

The inspection evaluated the SFP and fuel pool safety. Factors considered in the evaluation included: siphon and drain protection; SFP instrumentation, alarms and leakage detection; SFP chemistry and cleanliness control; criticality controls; and SFP operation and power supplies. The inspectors also evaluated fuel pool safety as it related to the SFP cooling and ventilation modifications. The inspectors reviewed plant documents to determine the requirements and evaluations for SFP temperature and level.

b. Observations and Findings

The inspectors reviewed the DTS, DSAR, shift supervisor's office electronic status board, local spent fuel pool area instrumentation, and portions of local electrical breaker positions and local valve line-ups. On November 14, 2000, the spent fuel pool temperature was 90°F, the spent fuel pool level was 614' 8.5", the time to boil (worst case) was 81 hours, and the best case was 160 hours. All the above were within limits.

On November 15, 2000, the licensee performed a SFP heat up rate test. Cooling was stopped at 8:30 a.m., with the temperature at 85.3°F. When cooling resumed at 5:30 p.m., the temperature was 93.1°F. This test yielded a heat up rate of 0.86°F per hour.

c. Conclusions

The safety of the stored spent fuel was being maintained by the new SFP cooling and ventilation systems. Temperature was being controlled at about 90°F with a heat up rate of 0.86 °F per hour.

3.2 Spent Fuel Pool Risk Management (60801)

a. Inspection Scope

The inspection reviewed the licensee's methods for spent fuel pool risk management, including spent fuel pool instrumentation, alarms, and leakage detection. The inspector reviewed recent spent fuel pool chemistry data. The inspector also toured the spent fuel pool area on two occasions.

b. Observations and Findings

The spent fuel pool area was maintained in good condition and all radiological areas were adequately marked. Monitoring systems required to maintain the spent fuel nuclear island were in good working order.

The inspector reviewed ZAP 1200-09, Revision 8, "Spent Fuel Pool Risk Management Program." The procedure gives instructions for determining the level of risk given the activities in progress and the equipment available. The procedure was being properly implemented.

The inspector reviewed some of the ways the licensee would be aware of leakage from the spent fuel pool. The alarm response procedure and calibration requirements for the spent fuel pool level instrumentation were reviewed. The spent fuel pool level instrumentation and alarm are calibrated once every 4 years with the calibration being current. The alarm response procedure gives adequate guidance for an alarm on low spent fuel pool level. The licensee also tracks the spent fuel pool level and the time since water was last added to the spent fuel pool. If leakage were to occur it would be determined by a decrease in time between fills. The inspector also reviewed procedure TSS 15.6.104, "Determination of Spent Fuel Pit Liner and Transfer Canal Liner Leakage." The procedure is performed semi-annually and will quantify leakage from the spent fuel pool liner.

The inspector reviewed recent spent fuel pool chemistry sample results. The results were within expected ranges. The spent fuel pool boron concentration was adequate to prevent criticality.

c. Conclusions

The licensee was adequately assuring the spent fuel pool is kept in a safe condition, including adequate procedures and methods to determine leakage.

3.5 Partial Loss of Electrical Power to the Spent Fuel Nuclear Island (SFNI)

a. Inspection Scope

On October 18, 2000, a partial loss of electrical power occurred. The inspector reviewed the circumstances of the loss of electrical power to the nuclear island and the effect on SFP cooling to determine if safe storage of the spent fuel was maintained. The inspector reviewed shift engineer logs and plant electrical drawings, held discussions with plant personnel, and performed a plant walkdown of the electrical busses and SFP cooling equipment.

b. Observations and Findings

On October 18, 2000, at 5:25 a.m. the Zion Station experienced a partial loss of power to the nuclear island equipment. The event did not affect the operating spent fuel cooling equipment. During the partial loss of power the SFP temperature was maintained at about 90 °F.

Two independent 12-kV feeds from the Exelon electrical distribution system supply two 12-kV to 480 V step down SFNI transformers. These transformers provide the normal power supplies to the Spent Fuel Pool (SFP) support systems. The switchgear busses are located in the fuel building. The busses can be crosstied in the event of a loss of one of the 12-kV feeds in order to maintain power to the SFNI support systems.

The SFP cooling system can be aligned such that all equipment needed to maintain SFP cooling is fed from the same bus. Additionally, the system is designed such that the SFP cooling equipment may be powered from a combination of the two spent fuel nuclear island (SFNI) busses.

The cooling system consists of two trains, each with three active components: 1) a SFP cooling pump, 2) a cooling tower pump, and 3) a cooling tower fan. Only one train is normally in service. Either of the two trains of electrical power (non-safely related) can supply any of these components.

In the October 18 event, a tree fell on one of the two lines away from the site, causing a partial loss of electrical power. The operating SFP cooling equipment was being supplied from the other electrical line at the time. Therefore, SFP cooling was not lost.

With the use of the applicable procedure, and within 30 minutes, the operator cross-tied the two SFNI busses. The power line was repaired and re-powered by 7:00 a.m., about 1.5 hours after the line went down. The SFNI busses were then returned to normal with the cross tie open.

c. Conclusions

The spent fuel was safely cooled during the partial loss of electrical power to the nuclear island.

## **4.0 Radiological Safety**

### **4.0 General**

The inspectors conducted reviews of ongoing activities in order to assess the overall RP program. Specific findings are detailed in the sections below.

### **4.1 Radiation Dose Exposures**

a. Inspection Scope

The inspectors observed work activities, held discussions with the plant staff, and reviewed radiation dose exposure data to determine if work activities were being performed in accordance with the ALARA principle.

b. Observation and Findings

The highest exposure days for the last 2 months were as follows: September had 2 days with 2 person-mrems and 5 days with 1 person-mrems; October had one day with 4 person-mrems, one day with 3 person-mrems, 2 days with 2 person-mrems, and 10 days with 1 person-mrems. The total exposure for

September was 9 person mrem and the total for October was 21 person-mrem. The ALARA goal for each month was 166 person-mrem. The actual monthly exposures were far below the goals, even though the goals were adjusted for each day.

The work activities performed in the radiological controlled area were operator rounds, security rounds, HP surveys, general maintenance, and surveillances.

The Zion Station Exposure year-to-date (YTD) as of October 31, 2000, was 3.144 Person-Rems. The YTD ALARA Goal was 4.142 Person-Rems.

b. Conclusions

The Zion Station combined exposure for September and October, 2000, was 30 person-mrem, far below the ALARA goal of 336 person-mrem. Activities performed within the last 2 months resulted in exposures that were ALARA.

## **5.0 Exit Meeting Summary**

The inspectors presented the inspection results to members of licensee management during a meeting on November 14, 2000. The licensee acknowledged the findings presented. The licensee did not identify any of the documents or processes reviewed by the inspectors as proprietary.

## **PARTIAL LIST OF PERSONS CONTACTED**

B. Adams, Engineering Manager  
J. Ashley, Design Engineering  
B. Bitman, Operations  
M. Bittman, Operations  
D. Bump, Plant Manager  
T. Hill, Maintenance Supervisor  
B. Isreal, Corporate Nuclear Oversight  
R. Landrum, Operations/Engineering Manager  
B. Leydens, Security Manager  
B. Maicke, Operations Supervisor  
M. Peterson, Administating/Training Supervisor  
M. Rode, Operations  
R. Schuster, Rad/Chem Supervisor  
P. Simpson, Licensing  
D. Stobaugh, Corporate Emergency Planning

## **INSPECTION PROCEDURES USED**

IP 36801:	Organization, Management, and Cost Controls at Permanently Shut Down Reactors
IP 40801:	Self-Assessment, Auditing, & Corrective Action
IP 60801:	Spent Fuel Pool Safety at Permanently Shut Down Reactors
IP 62801:	Maintenance and Surveillance at Permanently Shut Down Reactors
IP 71714:	Cold Weather Preparations
IP 71801:	Decommissioning Performance and Status Review at Permanently Shut Down Reactors
IP 83750:	Occupational Radiation Exposure
IP 92700:	Onsite Follow-up, Written Reports or Non-routine Events at Power Reactor Facilities

## ITEMS OPENED, CLOSED AND DISCUSSED

### Opened

05000/295-200004-01; 05000/304-200004-01	IFI	Order Imposing Civil Monetary Penalty of \$110,000; Zion Nuclear Station Unit 1 and 2 (EA 98-51B).
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### Closed

IFI 05000295/2000002-01	IFI	Review of Training Matrix: Work Request Task 990156866 06, "Develop a Training Requirements Matrix for Long Term Zion Organization (LTZO) Members."
05000/295-200004-01; 05000/304-200004-01	IFI	Order Imposing Civil Monetary Penalty of \$110,000; Zion Nuclear Station Unit 1 and 2 (EA 98-51B).

### Discussed

None

## DOCUMENTS REVIEWED

AOP – 8.6, Revision 1; SFNI Loss of Power

Action Requests (reviewed 15)

DSAR, "Defueled Safety Analysis Report"

DSEP, "Defueled Station Emergency Plan"

DTS, "Defueled Technical Specifications"

EPIP – 11, Revision 1; Emergency Communications Systems and Operational Tests

ODCM, "Offsite Dose Calculation Manual"

PSAR, "Post Shut-Down Activities Report"

SOI – 75 Appendix C, Revision 1; Spent Fuel Nuclear Island Cooling Tower Electrical and Valve Lineup

ZAP 700-02, Corrective Action Program and Action Request Process, Revision 7

Zion Station Defueled Station Emergency Plan, Revision 1, dated September 9, 2000



## LIST OF ACRONYMS USED

ACE	Apparent Cause Evaluation
ALARA	As-Low-As-Reasonably-Achievable
AOP	Abnormal Operating Procedure
AR	Action Request
ATR	Administrative Technical Requirements
CAQ	Condition Adverse to Quality
CCTV	Closed-Circuit Television
CNAQ	Condition Not Adverse to Quality
CRG	Condition Review Group
DSAR	Defueled Safety Analyses Report
DSEP	Defueled Station Emergency Plan
DTS	Defueled Technical Specifications
EAL	Emergency Action Level
ECCS	Emergency Core Cooling system
EDG	Emergency Diesel Generator
EPC	Emergency Preparedness Organization
EPIP	Emergency Plan Implementing Procedure
ERO	Emergency Response Organization
IFI	Inspector Follow-up Items
IM	Instrument Maintenance
IP	Inspection Procedure
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
PC	Protective Clothing
PCE	Personal Contamination Events
PIF	Problem Identification Form
PSDAR	Post-Shutdown Decommissioning Activities Reports
PT	Periodic Test
ODCM	Offsite Dose Calculation Manual
OSR	Onsite Review
RCR	Root Cause Report
RP	Radiation Protection
RPA	Radiologically Protected Area
RPT	Radiation Protection Technician
RWP	Radiation Work Permit
SCAQ	Significant Condition Adverse to Quality
SDR	Shutdown Risk
SFNI	Spent Fuel Pool Nuclear Island
SFP	Spent Fuel Pool
SOI	System Operating Instruction
SSC	Structures, Systems, Components
TIR	Trend Investigation Report
TS	Technical Specification
ZAP	Zion Administrative Procedure