UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, IL 60532-4352
February 21, 2014

Mr. John Sauger, General Manager
Zion Restoration Project
Zion*Solutions*, LLC
101 Shiloh Boulevard
Zion, IL 60099

SUBJECT: NRC INSPECTION REPORT 05000295/2013014(DNMS); 05000304/2013014(DNMS) – ZION NUCLEAR POWER STATION

Dear Mr. Sauger:

On December 23, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed onsite inspection activities for the fourth calendar quarter of 2013 at the permanently shut-down Zion Nuclear Power Station in Zion, Illinois. The inspection continued with in-office review through mid-January 2014. The purpose of the inspection was to determine whether decommissioning activities were conducted safely and in accordance with NRC requirements. The enclosed report presents the results of this inspection, which were discussed with Mr. Thurman on January 23, 2014.

During the quarterly inspection period, the NRC inspectors evaluated your staff's performance during an emergency preparedness drill; reviewed aspects of the occupational radiation exposure control program; and reviewed the implementation of the corrective action program. Additionally, during the inspection, we reviewed the implementation of the corrective actions specified in your letter dated December 12, 2013, in response to the Notice of Violation documented in NRC Inspection Report 05000295/2013011(DNMS); 05000304/2013011(DNMS).

The inspection consisted of an examination of activities at the site 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, observation of work activities, independent radiation measurements, and interviews with personnel.

Based on the results of this quarterly inspection, two violations of regulatory requirements were identified, both associated with compliance with radiation work permits. One violation is categorized at Severity Level IV (very low safety significance) while the other has been determined to be of minor safety significance. However, because the safety significance of the former violation is very low and both are documented in your corrective action program, the NRC is treating these issues as non-cited violations (NCVs) in accordance with Sections 2.3.2 and 2.3.1 of the NRC Enforcement Policy.

No response is required for the non-cited violations. However, if you contest the subject or severity level of the NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, Nuclear Regulatory Commission – Region III; and the Director, Office of Enforcement, Washington, DC.

In accordance with Title 10 of the *Code of Federal Regulations* (CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter and the enclosed report will be made available electronically for public inspection in the NRC's Public Document Room or from the NRC's Agencywide Document Access and Management System (ADAMS), accessible from the NRC's website at http://www.nrc.gov/reading-rm/adams.html.

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

Sincerely,

/RA/

Robert J. Orlikowski, Chief
Materials Control, ISFSI, and
Decommissioning Branch
Division of Nuclear Materials Safety

Docket Nos. 050-00295; 050-00304
License Nos. DPR-39; DPR-48

Enclosure:
Inspection Report No. 05000295/2013014(DNMS);
05000304/2013014(DNMS)

cc w/encl: *ZionSolutions,* Service List

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos.:	050-00295; 050-00304
License Nos.:	DPR-39; DPR-48
Report Nos.:	050-00295/2013-014(DNMS) 050-00304/2013-014(DNMS)
Licensee:	Zion*Solutions*, LLC
Facility:	Zion Nuclear Power Station (permanently shut-down)
Location:	101 Shiloh Boulevard Zion, IL 60099
Dates:	Onsite Inspection on October 23, November 6, November 20-22 and December 23, 2013
NRC Inspectors:	Wayne J. Slawinski, Senior Health Physicist Lionel Rodriguez, Reactor Engineer Matthew C. Learn, Reactor Engineer
Approved by:	Robert J. Orlikowski, Chief Materials Control, ISFSI, and Decommissioning Branch Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

Zion Nuclear Power Station, Units 1 and 2
NRC Inspection Report 050-00295/2013-014(DNMS); 050-00304/2013-014(DNMS)

The Zion Nuclear Power Station is a permanently shut-down and defueled power reactor facility that was maintained in a safe storage (SAFSTOR) condition with spent fuel in wet storage from 1998 through 2010. In 2011, active decommissioning commenced and continued throughout the inspection period. This routine safety inspection reviewed the licensee's execution of the site decommissioning project focusing on aspects of the occupational radiation exposure control program, implementation of the corrective action program and the corrective actions associated with a previous violation related to the control of discrete radioactive particles. The inspectors also evaluated licensee performance during a planned emergency preparedness exercise.

Organization and Management Controls

- The licensee's November 6, 2013 Defueled Station Emergency Plan (DSEP) exercise was generally well executed, adequately tested onsite response capability, demonstrated emergency response organization proficiency and met the exercise objectives established by the licensee (Section 1.1).

Self-Assessments, Audits and Corrective Actions

- Issues were being identified at appropriate thresholds by various departments of the licensee's organization and entered into the corrective action program. Issues were effectively screened and prioritized commensurate with safety significance. Licensee evaluations determined the significance of individual issues, while recurring issues were being evaluated through appropriate means (Section 2.1).

Decommissioning Performance and Status

- Workers followed work plans and were aware of the radiological controls specified in radiation work permits. Radiological barriers and postings satisfied regulatory requirements, although one radiological and two non-radiological barriers were found to be compromised by the inspectors during backshift walkdowns. Material condition and housekeeping in the Containment Buildings had degraded compared to previous inspection periods, which could potentially impact safe decommissioning work (Section 3.1).

Occupational Radiation Exposure

- Radiation surveys were performed adequately by radiation protection staff to identify the hazards present during radiologically significant work, including hazards associated with discrete radioactive particles generated during reactor vessel internals segmentation. Actions to correct previous problems with radioactive particles were adequate and aligned with those described in the licensee's response to a Notice of Violation issued for the third calendar quarter of 2013 (Section 4.1).

- Radiation work permits (RWPs) were sufficiently developed to address the radiological hazards associated with work activities when used in conjunction with additional controls specified in as-low-as-is-reasonably-achievable (ALARA) plans. However, isolated RWP compliance issues occurred, were documented in the licensee's corrective action program and reasonable actions were taken to prevent recurrence (Section 4.2).

Report Details

Summary of Plant Activities

During the quarterly inspection period, active decommissioning work was ongoing at the site and consisted of continued segmentation of the Unit-1 and Unit-2 reactor vessel internals, waste packaging and shipment preparation activities, and auxiliary building decommissioning work.

1.0 Organization and Management Controls (IP 36801)

1.1 Emergency Preparedness Drill

a. Inspection Scope

The inspectors observed the licensee's Defueled Station Emergency Plan (DSEP) annual exercise that took place on November 6, 2013. The inspectors evaluated the licensee's onsite performance to determine if the exercise adequately tested emergency response organization (ERO) capabilities as required by Title 10 of the *Code of Federal Regulations* (CFR) 50.47 and Section 8.3 of the DSEP. The pre-exercise scenario, post-exercise departmental critiques and the overall site critique was reviewed by the inspectors as part of the NRC assessment.

b. Observations and Findings

A written exercise scenario was developed by the licensee to test applicable criteria required by the DSEP. The scenario enveloped several 10 CFR 50.47 planning standards and tested various aspects of the DSEP such as those related to ERO response, onsite assessment capability including event classification, notification of federal and state agencies, site accountability and recovery actions. The exercise involved a simulated partial drain-down of the reactor cavity that caused elevated radiation levels within the plant.

The inspectors determined that the scenario was properly developed to test the intended criteria. The inspectors also determined that the exercise was generally well executed, met the licensee's stated objectives and demonstrated ERO proficiency including assessment capability. Licensee staff involved in various aspects of the activity met immediately following the exercise to conduct self-critiques and subsequently met as a group to conduct an overall site critique. The licensee's critiques were self-critical and identified areas for improvement, all of which were being captured in the licensee's exercise report. Observations made by the NRC inspectors during the drill were also captured as part of the licensee's critiques.

No findings of significance were identified.

c. Conclusions

The licensee's November 6, 2013 DSEP exercise was generally well executed, adequately tested onsite response capability, demonstrated ERO proficiency and met the exercise objectives established by the licensee.

2.0 Self-Assessments, Audits and Corrective Actions (IP 40801)

2.1 Identification, Resolution and Prevention of Problems

a. Inspection Scope

The inspectors reviewed a variety of corrective action program (CAP) documents that were generated during the inspection period to determine if a sufficiently low threshold for problem identification existed, to determine the quality of followup evaluations including extent of condition, and to determine whether the licensee assigned timely and appropriate prioritization for issue resolution. The inspectors reviewed the licensee's characterization of issues to determine whether the appropriate followup evaluation was performed or planned as provided in the licensee's procedures based on risk significance. Issues that were repetitive and those with the potential for safety or regulatory significance were evaluated further by the inspectors to determine whether apparent and/or common cause evaluations were being pursued by the licensee.

b. Observations and Findings

The inspectors determined that issues were identified by the licensee at a low threshold within various functional areas of the site and entered into the CAP. Issues were effectively screened and prioritized through the management review committee process and evaluated commensurate with safety significance in most instances. For individual issues, the licensee implemented adequate actions to resolve the immediate concern. The inspectors found that the scope and depth of evaluations was adequate in that they addressed the significance of issues and assigned a course of corrective action. The inspectors also found that recurring issues with heavy load lifts and associated equipment issues were being pursued through adequate evaluative methods including apparent cause and common cause evaluations. However, inspector queries prompted the licensee to place a moratorium on lifting non-standard loads until the licensee's common cause evaluation was completed or otherwise the lift was specifically approved by designated senior manager(s).

No findings of significance were identified.

c. Conclusions

Issues were being identified at appropriate thresholds by various departments of the licensee's organization and entered into the CAP. Issues were effectively screened and prioritized commensurate with safety significance. Licensee evaluations determined the significance of individual issues, while recurring issues were being evaluated through appropriate means.

3.0 Decommissioning Performance and Status Review (IP 71801)

3.1 Plant Tours/Walkdowns

a. Inspection Scope

The inspectors conducted plant tours throughout the inspection period to observe field conditions, discuss job safety with workers, and to assess the impact of work activities on safe decommissioning. Walkdowns were conducted in the Containment Buildings, the Auxiliary Building and in outdoor areas where radioactive materials or waste was stored. During these walkdowns, the inspectors evaluated material condition and housekeeping, area radiological conditions, radiological access control and associated posting/labeling, and reviewed the overall condition of systems, structures and components that support decommissioning. Independent radiation measurements were made by the inspectors in areas toured to determine if those areas were controlled properly and posted as prescribed in 10 CFR Part 20.

b. Observations and Findings

The inspectors found that controls associated with Unit-1 & Unit-2 Containment Building and Auxiliary Building work included those required to prevent unauthorized entry into contaminated areas and high radiation areas. However, the inspectors observed a radiological (contaminated area) and two non-radiological (confined space and generic work area) boundaries that were compromised in the auxiliary building during backshift walkdowns after workers had vacated these areas. Specifically, rope and fence boundaries were lying on the floor or partially downed potentially leading to unauthorized access. These issues were brought to the licensee's attention and rectified.

During walkdowns, the inspectors found that work coverage provided by the radiation protection staff was adequate for the work observed. The inspectors also determined that personnel were aware of job controls specified in work instructions and demonstrated proper radiological awareness.

The inspectors observed that the material condition and housekeeping in the containment buildings had degraded compared to prior quarterly inspection periods in 2013. In particular, the inspectors noted that areas of the containment buildings surrounding the perimeter of the reactor cavity were cluttered with equipment and waste. The inspectors questioned if cleanliness standards were being maintained through management walkdowns. Similarly, the inspectors noted issues with the inventory, control and inspection of equipment and components used for executing lifts in the containment buildings such as slings and shackles. Specifically, the inspectors observed that equipment was not maintained in an organized manner as it was observed lying atop, under or amongst various other unrelated equipment or debris. Also, about 20% of the slings and shackles observed by the inspectors during a walkdown of one of the containment buildings in November were not labeled to indicate inspection status and therefore readiness for use, as prescribed by the licensee's program. The inspectors noted that material condition and housekeeping improved late in the inspection period.

No findings of significance were identified.

c. Conclusions

Workers followed work plans and were aware of the radiological controls specified in radiation work permits. Radiological barriers and postings satisfied regulatory requirements although radiological and non-radiological barriers were found to be compromised during inspector walkdowns after normal work hours. Material condition and housekeeping in the containment buildings had degraded compared to recent inspection periods, which could potentially impact safe decommissioning work.

4.0 Occupational Radiation Exposure (IP 83750)

4.1 Control of Radioactive Materials, Contamination and Radiation Surveys

a. Inspection Scope

The inspectors reviewed radiological surveys, radiation work permits (RWPs) and as-low-as-is-reasonably-achievable (ALARA) reviews for selected activities that presented radiological risk to workers. The review was performed to determine if the licensee developed appropriate measures to identify hazards and provided means to mitigate their consequence. During plant walkdowns, the inspectors observed work activities to assess whether the controls implemented aligned with the RWPs and ALARA plans, and were adequate to control and therefore minimize worker radiation exposure.

The inspectors reviewed the radiological survey practices and the controls for reactor cavity internals segmentation activities focusing on the identification and control of discrete radioactive particles (DRPs). Radiation protection job coverage was evaluated to determine if sufficient oversight was provided to preclude previous problems with DRPs, including actions taken for particle hazard mitigation as described in the licensee's letter dated December 12, 2013, responding to a Notice of Violation (NOV) dated November 14, 2013.

b. Observations and Findings

The inspectors found that radiologically risk-significant activities were evaluated and controls were prescribed as ALARA measures consistent with 10 CFR 20.1101. Work in the containment and auxiliary buildings was observed to be controlled adequately to prevent intake from airborne hazards and to minimize external dose.

The inspectors determined that radiological surveys were performed by radiation protection staff in a manner sufficient to identify the presence of DRPs associated with reactor vessel internals segmentation work. The inspectors found that particle control initiatives undertaken by the licensee during the latter stages of the inspection period yielded positive results. In particular, enhanced survey, contamination control and housekeeping practices implemented by the licensee's 'particle mitigation team' demonstrated improved control of DRPs.

The inspectors observed that surveys were being performed of workers that extracted segmentation equipment/tooling from the reactor cavity on at least an hourly frequency, and before the individual's departure from the work area. Also, adhesive mat 'sticky'

rollers were observed to be used routinely (minimally twice per shift) to identify contaminants on cavity walkways, catwalks, the cavity bridge and particles potentially imbedded in crane rails and other crevices surrounding the reactor cavity. The inspectors determined that DRP surveys and other particle mitigation efforts aligned with those described in the licensee's NOV response dated December 12, 2013. Additionally, the inspectors noted through observation that the chip collection/desludging system committed in the licensee's NOV response was put into service in the Unit 2 cavity the week of December 16, 2013. Consequently, the corrective actions for the violation described in NOV dated November 14, 2013 are adequate; therefore, Violation (VIO) 05000295/2013-11-01; 05000304/2013-11-01 is closed.

No findings of significance were identified.

c. Conclusions

Surveys were performed adequately by radiation protection staff to identify the hazards present during radiologically significant work, including hazards associated with discrete radioactive particles generated during vessel internals segmentation. Actions to correct problems with radioactive particles were adequate and aligned with those described in the licensee's response to a recent Notice of Violation.

4.2 Radiation Work Permit Compliance

a. Inspection Scope

The inspectors reviewed a variety of RWPs during the inspection period including RWPs related to issues identified through the NRC allegation process. The RWPs were evaluated to determine whether the controls, instructions and special provisions provided in the RWPs were adequate to address the radiological hazards present or that could emerge. Additionally, the inspectors evaluated RWP implementation through field observations and worker discussions.

b. Observations and Findings

Overall, the inspectors found that RWPs were sufficiently developed to address the radiological hazards associated with work activities when used in conjunction with the additional controls specified in ALARA plans. However, in one instance, an RWP was not consistently implemented by radiation protection staff as it was not clearly understood. In another instance, RWP compliance was not achieved due to human performance issues.

RWP 2013-1-1005 & 2013-2-2005: Reactor Internals Segmentation Equipment Operation, Maintenance and Repair

The licensee commenced reactor vessel internals segmentation in 2012, initiating work in Unit-2 then transitioning a few months later to Unit-1. The segmentation work was performed using mechanical cutting and milling equipment designed specifically for the Zion decommissioning project. Internals components were segmented underwater in the refueling cavities, and then subsequently placed into liners for onsite storage or shipment to low-level waste burial sites. Reactor baffle plate bolts were milled using specialty drill bits which were exchanged routinely as they degraded. Similarly, saw blades used to

mechanically cut internals components were replaced as they degraded. Since the bits and blades directly contacted activated vessel internals hardware, they accumulated the radioactively contaminated byproducts (particles, chips and fines) generated during the segmentation process. As a result, spent bits and saw blades were potentially highly radioactive. Used bits and blades were stored underwater in the cavity pools or extracted from the pools and placed in dry storage depending on their radiological condition. To accomplish the replacement of spent bits and blades safely, radiation surveys were necessary to identify the hazards present. These surveys were performed while the item remained underwater (using sealed detector probes) and/or as the item was being removed from the cavity pool before it was fully exposed in-air (using Geiger-Mueller (GM) type detectors). The survey method chosen was at the discretion of the RP staff covering the work based on the expected dose rates.

RWP 2013-2-2005 (Revision 0, dated December 28, 2012) and RWP 2013-1-1005 (Revision 2, dated July 22, 2013) required that surveys be performed of items that have contacted milled reactor internals. Specifically, a "Special Instruction" in each of these RWPs specified "perform underwater survey of items, prior to removal, that have contacted milled reactor internals." The special instruction was intended to be in the initial revision of both Unit-1 and Unit-2 RWPs (dated December 28, 2012); however, due to an oversight, the Unit 1 RWP did not include that instruction until July 2013. The discrepancy was identified by the licensee and rectified in July 2013, when both RWPs were being revised for other reasons.

The inspection disclosed that RP staff had not implemented the special instruction consistently in either Unit-1 or Unit 2 because the instruction was subject to interpretation and clarification was not sought by RPTs or provided by RP supervision. While some RPTs conducted surveys of spent drill bits underwater with sealed/insulated probes, other technicians performed surveys in-air just above the surface of the pool using Geiger-Mueller (GM) instruments as the bits were being extracted. Confusion about the instruction was further illustrated with saw blades which were seldom surveyed using underwater probes submersed in the pool even though these blades also came in contact with milled reactor internals. According to the licensee, the intent of the special instruction was to alert RP staff of the need to monitor the dose rates on bits and blades before they were fully extracted from the pool because they could generate very high dose rates. The licensee had not intended that underwater (in pool) surveys be used exclusively to satisfy the instruction. Instead, an in-air survey with a G-M instrument was acceptable provided the item extracted was monitored as it breached the surface of the water. These expectations were conveyed to RP staff during departmental meetings following revision of the Unit 1 RWP in July 2013. Nevertheless, in response to inspector queries in November 2013, the licensee began uniformly performing surveys of drill bits underwater using sealed probes. Saw blades continued to be surveyed in-air with G-M instruments as they were raised from the pool because the dose rate on the blades was significantly lower than the drill bits.

Technical Specification 5.5 requires that written procedures be established, implemented and maintained covering the activities in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978. The Regulatory Guide requires radiation protection procedures including those for a radiation work permit system.

Contrary to the Special Instruction in RWP 2013-2-2005 and RWP 2013-1-1005 (effective December 28, 2012 and July 22, 2013, respectively), underwater surveys of each item that had contacted milled reactor internals was not conducted before removal of the item from the cavity pools. Approximately 25 saw blades and 20 drill bit changes occurred monthly during active segmentation work, most of which were not surveyed while submersed underwater. The compliance issues occurred in both units until the special instruction was clarified and survey consistency was fully achieved in November 2013. The licensee also revised both RWPs to add clarifying language to the special instruction.

The RWP violation is classified as a violation of minor safety significance as provided in Section 6.7 of the Enforcement Policy because: (1) the safety implications of the RWP compliance had minimal actual or potential radiological consequence; and (2) an adequate level of radiological protection was provided by the licensee's survey practices (whether in-air or underwater) to maintain radiation exposure to workers ALARA. The issue was documented in the licensee's corrective action program as condition report (CR) No. 2013-000803. The violation is not subject to enforcement action since it is of minor safety significance.

RWP 2013-1-0011: Remove 21/300 Baskets from Unit-1 Cavity Pool and Place into Liner

Radiation work permit 2013-1-0011 governed the extraction of segmented internals hardware from the Unit-1 cavity pool for subsequent placement into shipping casks. Revision 0 of the RWP (effective June 13, 2013) included a Special Instruction that "security will be present for the removal of the baskets/liners in compliance with security quantity of concern criteria." The threshold value for a radioactive material quantity of concern was established by NRC Order (EA-09-204). Therefore, irradiated internals hardware containing a curie content of radioactive material greater than the NRC established value in the Order represented a "quantity of concern."

On July 29, 2013, a liner basket containing segmented internals hardware was removed from the Unit-1 cavity pool with a radioactive content in excess of the quantity of concern threshold value. The liner was removed from the pool using the containment building polar crane, held above the pool water for several minutes while water drained from the basket, then moved to a pre-established lay-down area within the building and the crane hook disengaged. Radiation protection personnel including the designated containment access control guard (red arm band individual) were present during the entire evolution. The RP access control guard ensured that only authorized personnel were present in the containment building as a means to satisfy the requirements of the NRC Order for Increased Control.

As the liner was raised from the pool, the RP access control guard questioned whether the basket housed a quantity of concern and therefore if a security officer should be present as specified in the RWP. Those involved in the lift were unaware of the quantity of concern threshold value which prompted the security organization to be contacted as the liner was being moved into the lay-down area. A security officer responded and arrived in the containment building as the liner reached the lay-down area, at which time the crane grapple was unhooked.

The licensee generated CR 2013-00803 to document the problem and completed an evaluation of the incident. The licensee determined that to meet the RWP, a security officer should have been present while the liner was lifted from the pool until it was unhooked from the crane. The licensee's investigation identified that several issues contributed to the compliance problem which consisted of:

- Training deficiencies;
- Less than adequate pre-job brief and communications amongst the work crew and supervisors; and
- Use of the wrong RWP to conduct the lift.

The inspectors confirmed that no unauthorized personnel were present in Unit 1 when the incident took place. Also, the inspectors determined that the liner was under constant visual surveillance by RP staff during the liner movement. Consequently, the inspectors concluded that requirements of NRC Order EA-09-204 were met even though RWP compliance was not achieved.

Technical Specification 5.5 requires that written procedures be established, implemented and maintained covering the activities in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978. The Regulatory Guide requires radiation protection procedures including those for a radiation work permit system.

Contrary to the Special Instruction in RWP 2013-1-0011(effective June 13, 2013), a security officer was not physically present in Unit-1 for approximately one-hour on July 29, 2013, while a liner that contained a cobalt-60 quantity of concern was moved from the cavity pool to a lay-down area within the containment building.

The licensee adequately investigated the incident and implemented actions to prevent recurrence. The RWP violation is of greater than minor safety significance as it constituted a failure to fully implement the established protocol to monitor and deter potential insider threat into an area of the plant that required increased control. However, no unauthorized access into Unit-1 actually occurred while the liner was moved without security presence because RP staff ensured that only authorized individuals entered the containment building. Also, the potential impact of an unauthorized entry or insider threat was not likely exploitable given the physical form of the radioactive material, its confinement within the liner plus other physical and administrative barriers that existed in Unit-1. As a result of these factors, the violation is classified at Severity Level IV (very low safety significance), as provided in Section 6.12 of the Enforcement Policy. The issue is dispositioned as a non-cited violation (NCV) consistent with the Enforcement Policy because the issue was licensee identified, documented in the licensee's corrective action program (CR 2013-000803) and met the other NCV criteria provided in the policy (NCV 05000295/2013-014-01; 05000304/2013-014-01).

No findings of significance were identified; however, RWP compliance issues of minor and very low safety significance were disclosed during the inspection.

c. Conclusions

Radiation work permits were sufficiently developed to address the radiological hazards associated with work activities when used in conjunction with additional controls specified in ALARA plans. However, isolated RWP compliance issues occurred, were documented in the licensee's corrective action program and reasonable actions were taken to prevent recurrence.

5.0 Exit Meeting

The inspectors presented the results of the inspection to Messrs. Thurman and Wholers during an onsite meeting on January 23, 2014. The individuals acknowledged the results presented and did not identify any of the documents reviewed by the inspectors as proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

G. Bouchard, Vice President, Engineering, Operations & Nuclear Security
S. Chris Baker, Vice President, Environmental Health & Safety
*P. Thurman, Vice President, Regulatory Affairs
R. C. Keene, Director, Radiation Protection
*S. Wholers, Regulatory Affairs

*Participated in exit meeting on January 23, 2014.

INSPECTION PROCEDURES (IPs) USED

IP 36801	Organization and Management Controls
IP 40801	Self-Assessment, Auditing and Corrective Action
IP 71801	Decommissioning Performance and Status Review
IP 83750	Occupational Radiation Exposure

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened & Closed	Type	Summary
05000295/13-14-01 05000304/13-14-01	NCV	Failure to comply with RWP instruction for security guard presence during liner movement in the Unit-1 Containment Building.

Closed	Type	Summary
05000295/13-11-01 05000304/13-11-01	VIO	Radiation surveys not adequate to identify DRPs.

PARTIAL LIST OF DOCUMENTS REVIEWED

Exercise Manual; 2013 Zion Defueled Station Emergency Plan Exercise; November 6, 2013

RWP 2013-1-1005/2013-2-2005; Unit 1/Unit 2 Reactor Cavity Work – Operate, Maintain, Repair and Modify Reactor Vessel Internals Segmentation Equipment; Revisions 0 – 3 (Unit 1) and Revisions 0 – 8 Unit (2)

RWP 2013-1-1012/2013-2-2012; Unit1/Unit 2 Radiation Protection Coverage to Support Reactor Vessel Internals Segmentation; Revisions 0 – 2

ALARA Review No. 12-0017; Package and Segment Unit 1 Reactor Internals; Revision 0 – 3

ALARA Review No. 12-0018/12-0019; Segment and Package Unit 1/Unit 2 Reactor Upper Internals; Revision 0 - 3

ALARA Review No. 13-006; Transfer 8/120 Liners from Unit 2 Containment for Shipment; Revision 0 – 2

Various Radiation Surveys for Unit 1 & Unit 2 Reactor Cavity for June and July 2013

CR 2013-000467; Trend in Dose Rate Alarms; dated May 8, 2013

CR 2013-000613; Dose Rate Alarm; dated June 17, 2013

CR 2013-000803 and Associated Issue Review; Liner Pulled from Cavity without Security; dated July 29, 2013

Summary of Liner, Saw Blade and Drill Bit Survey Results for June and July 2013

ALARA Review 13-002; Operation and Maintenance of Water Filtration Systems for Unit 2; Revision 3

RWP 2013-2-2016; Operate and Maintain All Water Filtration Systems Including DTS Sludge Filtration System in Unit 2; Revision 6

Diversified Technologies Services, Inc. Operating Procedure; Zion Desludging System Operation; Revision A

Diversified Technologies Services, Inc. Operating Procedure; Zion Desludging System Maintenance; Revision A

CR 2013-001359; Unit 2 Coffin Wall Filter Tank RP Access; dated December 18, 2013

CR 2013-001121 & 2013-001122; Loss of Both 12 kv and 34 kv Lines to Zion Station; dated October 18 & 20, 2013

Zion*Solutions R*eply to Notice of Violation; EA-13-208; dated December 12, 2013