



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, ILLINOIS 60532-4352

February 13, 2019

Mr. John Sauger  
Executive VP and Chief Nuclear Officer  
EnergySolutions, LLC  
121 West Trade Street, Suite 2700  
Charlotte, NC 28202

SUBJECT: NRC INSPECTION REPORT NOS. 05000409/2018001(DNMS);  
07200046/2018001(DNMS) – LA CROSSE BOILING WATER REACTOR

Dear Mr. Sauger:

On January 16, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the La Crosse Boiling Water Reactor in Genoa, Wisconsin. 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. Gerard van Noordennen of your staff on January 16, 2019.

The inspection consisted of an examination of activities at the facility as they relate to safety and compliance with the Commission's rules and regulations. Areas examined during the inspection included management and control, radiological safety, confirmatory surveys, and operation of an Independent Spent Fuel Storage Installation. Within these areas, the inspection consisted of a selective examination of procedures and representative records, field observations of activities in progress, and interviews with personnel.

Based on the results of this inspection, the NRC identified one Severity Level IV violation of NRC requirements. However, because of the very low safety significance and because the issue was entered into your Corrective Action Program, the NRC is treating this issue as a Non-Cited Violation (NCV) in accordance with Section 2.3.2 of the NRC's Enforcement Policy.

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

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC's Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* (CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding."

J. Sauger

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We will gladly discuss any questions you have concerning this inspection. If you have any questions, please contact Mr. Rhex Edwards of my staff at 630-829-9722.

Sincerely,

**/RA/**

Michael A. Kunowski, Chief  
Materials Control, ISFSI, and  
Decommissioning Branch  
Division of Nuclear Materials Safety

Docket Nos. 50-409; 72-046  
License No. DPR-45

Enclosure:  
IR 05000409/2018001(DNMS);  
07200046/2018001

cc w/encl: LaCrosseSolutions Service List

Letter to John Sauger from Michael Kunowski dated February 13, 2019.

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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION III**

Docket No.: 05000409  
07200046

License No.: DPR-45

Report No.: 050-00409/2018001(DNMS)  
072-00046/2018001(DNMS)

Enterprise Identifier: I-2017-001-0082

Licensee: LaCrosseSolutions, LLC

Facility: La Crosse Boiling Water Reactor

Location: Genoa, Wisconsin

Dates: January 15, 2018, through January 16, 2019

Inspectors: Rhex Edwards, Senior Health Physicist  
Peter J. Lee, Reactor (Decom) Inspector, Ph.D., CHP  
James Beavers, Health Physicist

Approved by: Michael A. Kunowski, Chief  
Materials Control, ISFSI, and  
Decommissioning Branch  
Division of Nuclear Materials Safety

Enclosure

## EXECUTIVE SUMMARY

### **La Crosse Boiling Water Reactor (LACBWR) NRC Inspection Report Nos. 05000409/2018001(DNMS); AND 07200046/2018001(DNMS)**

This periodic decommissioning inspection covered aspects of facility management and control, radiological safety, confirmatory surveys, and operation of an Independent Spent Fuel Storage Installation (ISFSI).

#### Facility Management and Control

- The licensee implemented organization, management, and cost controls in accordance with regulatory requirements, license conditions, and the Technical Specifications (TSs). (Section 1.1)
- The licensee performed adequate safety evaluations or screenings, completed design change evaluations, and properly assessed decommissioning impacts of various work activities as required by Title 10 of the *Code of Federal Regulations* (10 CFR) 50.59. (Section 1.2)
- Issues were identified by the licensee at appropriate thresholds and entered into the Corrective Action Program (CAP). Issues were screened and prioritized commensurate with safety significance. Licensee evaluations determined the significance of issues and included appropriate remedial corrective actions. (Section 1.3)
- Plant material condition and housekeeping were adequate and had not adversely impacted safe decommissioning. Workers followed work plans, industrial safety protocols, and were aware of job controls specified in work instructions. (Section 1.4)
- The inspectors determined that the licensee was adequately controlling decommissioning activities and radiological work areas. (Section 1.5)

#### Radiological Safety

- The inspectors determined that the licensee continued to be effective in controlling radiation worker personal exposure. (Section 2.1)
- The inspectors identified a Severity Level (SL) IV Non-Cited Violation (NCV) of 10 CFR 20.1302(a), "Compliance With Dose Limits for Individual Members of the Public," for failing to perform appropriate surveys of radioactive materials in effluents released to unrestricted and controlled areas to demonstrate compliance with the dose limits for individual members of the public. (Section 2.2)
- The inspectors determined that the licensee had complied with U.S. Nuclear Regulatory Commission (NRC) and U.S. Department of Transportation (DOT) regulations for shipments of radioactive waste. (Section 2.3)

### Confirmatory Survey

- The inspectors determined that the west portion of Survey Unit 102 (excluding the excavated area of the Reactor Plant Generator Plant Access (RPGPA)), the circulating water discharge piping, Survey Unit 103 (L1-SUB-LES), and the east portion of Survey Unit 104 met the criteria specified in 10 CFR 20.1402. (Section 3.1)

### Operation of an ISFSI

- The licensee implemented its surveillance, maintenance, radiological monitoring, and quality assurance programs as it pertains to the ISFSI in accordance with applicable NRC requirements, their license, and the Certificate of Compliance (CoC). (Section 4.1)

## **Report Details**

### **Summary of Plant Activities**

During the inspection period, active decommissioning work was ongoing at the site and consisted of demolition of the internal components of the reactor building and final status surveys (FSS) of the west portion of Survey Unit 102 (excluding the excavated area of the Reactor Plan Generator Plan Access (RPGPA) sump), the circulating water discharge piping, Survey Unit 103 (L1-SUB-LES), and the east portion of Survey Unit 104.

#### **1.0 Facility Management and Control**

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

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

The inspectors reviewed documents and interviewed plant personnel to assess the licensee's implementation of a personnel reduction strategy to verify that it did not adversely challenge public health and safety or decommissioning and would continue to meet regulatory requirements. Additionally, the inspectors assessed the licensee's implementation of their license, the Post Shutdown Decommissioning Activities Report, and fire protection program (FPP) requirements and commitments. As part of the inspection, the inspectors verified that licensee programs and procedures were appropriately implemented by licensee staff. In addition, the inspectors verified that when issues were identified, licensee personnel appropriately documented the issue in the CAP.

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

The inspectors determined through direct observation, sampling of corrective action documents, and interviews with licensee personnel that the appropriate regulatory requirements and commitments were followed. During walkdowns, the inspectors concluded that the licensee maintained good housekeeping practices.

No findings were identified.

###### **c. Conclusions**

The licensee implemented organization, management, and cost controls in accordance with regulatory requirements, license conditions, and the TSs.

##### **1.2 Safety Reviews, Design Changes, and Modifications at Permanently Shutdown Reactors** **(IP 37801)**

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

The inspectors reviewed documents and interviewed plant personnel to assess whether the licensee's procedures and processes conform to 10 CFR 50.59 and associated guidance. A sampling of design change modifications was reviewed to evaluate whether they would have required prior NRC approval. The inspectors verified that

when issues were identified, licensee personnel appropriately documented the issue in the CAP.

b. Observations and Findings

The inspectors reviewed the licensee's program for changes and performed a review of licensee-approved changes of procedures and modifications. Specifically, the inspectors reviewed plans for relocating the liquid radiological waste system from the reactor building to a temporary outdoor location, and the changes associated with adding additional transfer tanks to the system.

No findings were identified.

c. Conclusions

The licensee performed adequate safety evaluations or screenings, completed design change evaluations, and properly assessed decommissioning impacts of various work activities as required by 10 CFR 50.59.

1.3 Self-Assessment, Auditing, and Corrective Action at Permanently Shutdown Reactors (IP 40801)

a. Inspection Scope

The inspectors reviewed documents and interviewed plant personnel to assess whether licensee's administrative procedures prescribed actions for the identification, evaluation, and resolution of problems. Additionally, the inspectors verified whether self-assessments were conducted by technically qualified personnel and were reviewed by management, and issues were identified and corrected in accordance with the licensee's CAP. The inspectors reviewed CAP documents to determine if a sufficiently low threshold for problem identification existed; the quality of follow-up evaluations, including extent-of-condition; and if the licensee assigned timely and appropriate prioritization for issue resolution commensurate with the significance of the issue.

b. Observations and Findings

The inspectors determined that issues were identified by the licensee at an appropriate threshold within various functional areas at the site and were entered into the CAP. Issues were effectively screened, prioritized, and evaluated commensurate with safety significance. The scope and depth of evaluations were adequate in that the evaluations reviewed addressed the significance of issues and assigned an appropriate course of remedial action.

No findings were identified.

c. Conclusions

Issues were identified by the licensee at appropriate thresholds and entered into the CAP. Issues were screened and prioritized commensurate with safety significance. Licensee evaluations determined the significance of issues and included appropriate remedial corrective actions.



#### 1.4 Maintenance and Surveillance at Permanently Shutdown Reactors (IP 62801)

##### a. Inspection Scope

The inspectors toured the site as well as reviewed records and procedures to assess the proper operation of the temporary radioactive liquid waste system used for discharging to the Mississippi River and the high-efficiency particulate air (HEPA) filter exhaust system used during reactor building demolition to limit radioactive material released to the atmosphere. Additionally, the inspectors reviewed the site's implementation of the FPP and conducted tours to verify compliance with the program.

##### b. Observations and Findings

The inspectors noted that throughout the inspection period housekeeping remained satisfactory and changing radiological conditions were addressed in a prompt and timely manner by licensee staff.

No findings were identified.

##### c. Conclusions

Plant material condition and housekeeping were adequate and had not adversely impacted safe decommissioning. Workers followed work plans, industrial safety protocols, and were aware of job controls specified in work instructions.

#### 1.5 Decommissioning Performance and Status Review at Permanently Shutdown Reactors (IP 71801)

##### a. Inspection Scope

The inspectors conducted plant tours to assess field conditions and decommissioning activities and to ensure that radioactively contaminated areas were being controlled.

##### b. Observations and Findings

The HEPA filter ventilation system had maintained adequate negative pressure during demolition activities in the reactor building and loading waste into shipping containers in the attached containment tent to minimize worker and general public doses. Work areas were observed to be adequately controlled, postings and boundaries were appropriate, and workers followed established procedures and were wearing respirators, as required, and appropriate protective clothing.

##### c. Conclusions

The inspectors determined that the licensee was adequately controlling decommissioning activities and radiological work areas.

## **2.0 Radiological Safety**

### **2.1 Occupational Radiation Exposure (IP 83750)**

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

The inspectors reviewed work instructions, As Low As Is Reasonably Achievable (ALARA) pre-job reviews, and radiation work permits associated with the demolition of internal components of the reactor building. The inspectors reviewed external exposure records and reviewed air sampling results to evaluate internal exposures. The inspectors also interviewed various licensee health physics staff and supervisors.

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

The radiological planning of the health physics staff pre-job meeting provided adequate radiation protection coverage, and the ALARA reviews were effective in minimizing unnecessary doses. All licensee personnel were knowledgeable about the hazards of the evolutions being performed and the proper radiation protection protocols for any radiological incidents. The personnel exposures were well below 10 CFR Part 20 limits.

During 2018, 93 workers had received a total external exposure of 636 milli-rem (mrem). The highest dose received by any one individual was 88 mrem.

Based on the review of air sampling results and a respirator protection factor of 1000, the inspectors concluded that the workers received insignificant internal exposures from particulates.

Following the discovery of the release of tritium through the HEPA exhaust during the demolition of internal components of the reactor building (see Section 2.2), the licensee conducted air sampling and bioassays to assess the intake of tritium for the workers. The air sampling results indicated the tritium concentrations ranged from about 2.5E-04 to 5.0E-03 Derived Air Concentration (DAC). Based on urine samples collected on March 10, 2018, the highest tritium concentration in a sample was 2160 picoCuries/Liter (pCi/L). Because the workers would have been exposed to tritium since demolition of reactor building internal components began on November 27, 2017, the tritium had reached equilibrium in the body fluid. The dose to the worker for 100 days exposure of 0.09 microCurie (uCi) of body burden was about 0.04 mrem. Based on the above, the tritium contributed insignificant exposure to the workers during demolition.

#### **c. Conclusions**

The inspectors determined that the licensee continued to be effective in controlling radiation worker personal exposure.

### **2.2 Radioactive Waste Treatment, and Effluent and Environmental Monitoring (IP 84750)**

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

The inspectors evaluated the licensee's activities to effectively control, monitor, and quantify releases of radioactive materials to the environment during the demolition of internal components of the reactor building. The inspectors observed and reviewed the results of the contamination verification surveys (CVSs) of the steel liner of the reactor

building and the attached containment tent. Additionally, the inspectors reviewed the licensee's investigation of a tritium release from the reactor building ventilation exhaust.

b. Observations and Findings

The CVS of the steel liner of the reactor building and the attached containment tent met the open-air demolition limits as stated in the License Termination Plan (LTP).

The licensee had set up continuous air sampling stations around the boundary of the radiological controlled area during demolition of internal components of the reactor building. Based on a review of the air sampling results, the inspectors determined that of the radionuclides analyzed, none of them exceeded the minimum detectable concentrations. The inspectors also reviewed the liquid effluent discharges. Based on the review, the inspectors determined that the releases were well below 10 CFR Part 20 limits.

On December 28, 2017, groundwater samples were taken by the licensee from the onsite monitoring wells. One of the wells, MW-203A, indicated tritium was present at a concentration of 13,000 pCi/L. MW-203A was located closest to the excavated area of the RPGPA sump. Upon receiving the sample results, the licensee entered the issue into the CAP (CR-ES-LCR-CR-2018-008) on January 8, 2018. As part of the corrective actions, the licensee began an investigation, including more frequent sampling of the monitoring wells. In samples collected on February 14, 2018, the tritium concentration in well MW-203A increased to 24,200 pCi/L and tritium concentration also increased in MW-202A to 13,200 pCi/L. The increase in concentration in MW-202A indicated that the tritium was migrating along the expected groundwater flow. The concentration in well MW-203A exceeded the United States Environmental Protection Agencies Maximum Contaminant Level of 20,000 pCi/L for drinking water. However, these wells were not used for drinking water, rather they were installed for environmental monitoring. The licensee issued a press release regarding the tritium release and made an Event Notification (EN) to the NRC, because of the press release, on March 12, 2018 (EN 53254).

While evaluating the condition, the licensee concluded that the tritium was released from the reactor building HEPA ventilation system exhaust. This system was used during demolition activities inside the reactor building starting on November 20, 2017. The tritium released through the exhaust originated from tritium entrained in concrete, such as the bio-shield for the reactor and had been generated during reactor plant operation from 1967 to 1987 due to neutron activation. Once the concrete was broken up, the tritium was released and the reactor building exhaust carried the tritium outside where it was discharged towards the ground. The tritium in the exhaust combined with ice and snow melt on the ground existing approximately four feet below the exhaust point. Rainwater caused the impacted ice and snow to flow into the RPGPA sump excavated area located nearby and close to well MW-203A. The excavated area was at an elevation below the water table and was in hydraulic communication with the shallow aquifer. No tritium was identified in wells located in the deeper aquifer.

The ice/snow melt impacted by exhaust was sampled and found to contain tritium concentrations up to approximately 237,000 pCi/L, which is below 10 CFR Part 20 limit of 1,000,000 pCi/L for effluent release. Following the discovery of the impacted ice/snow melt containing tritium, the license redirected the exhaust away from the ground and collected water from ice/snow melt below the exhaust ventilation unit.

Since the ventilation was redirected, the tritium concentrations have decreased in MW-203A and in MW-202A in the monthly sampling results. At the end of this inspection, the tritium concentrations had reached the minimum detectable concentration of 500 pCi/L. Throughout the licensee's investigation, tritium was never detected in any drinking water wells.

The inspectors identified a violation of 10 CFR 20.1302(a), "Compliance With Dose Limits for Individual Members of the Public," for the licensee's failure to perform appropriate surveys of radioactive materials in effluents released to unrestricted and controlled areas to demonstrate compliance with the dose limits for individual members of the public.

The inspectors determined that the violation was of more than minor significance in that the licensee needed to install equipment, monitor employees, perform additional surveys capable of detecting tritium, and conducted an elaborate groundwater monitoring study to assess the doses to individual members of the public. Additionally, the inspectors found the violation to be similar to Inspection Manual Chapter (IMC) 0612, Appendix E, example 6.a, in that the failure to survey led to a reasonable likelihood of unintended dose to an individual.

Consistent with the guidance in Section 1.2.6.D of the NRC Enforcement Manual, if a violation does not fit an example in the Enforcement Policy Violation Examples, it should be assigned a SL: (1) commensurate with its safety significance; and (2) informed by similar violations addressed in the Violation Examples. The inspectors did not find an example in the NRC's enforcement guidance that was similar to this issue. However, the inspectors were informed by IMC 0609, Appendix D, "Public Radiation Safety Significance Determination Process," Section C, in that the dose impact to a member of the public from the radiological release is less than the dose values in Appendix I to 10 CFR 50 and/or 10 CFR 20.1301(e); therefore, there is minimal risk. As such, the release was not considered to be of higher safety significance and the violation screened as a SL IV.

10 CFR 20.1302(a), "Compliance With Dose Limits for Individual Members of the Public," requires, in part, that the licensee make or cause to be made, as appropriate, surveys of radiation levels in unrestricted and controlled areas and radioactive materials in effluents released to unrestricted and controlled areas to demonstrate compliance with the dose limits for individual members of the public in §20.1301.

Contrary to the above, from November 20, 2017, until March 8, 2018, the licensee did not make, as appropriate, surveys of radioactive materials in effluents released to unrestricted and controlled areas to demonstrate compliance with dose limits for individual members of the public.

Specifically, the licensee had not assessed the quantity of tritium that would be released to the atmosphere and water effluents at the site boundary as activated concrete in the lower elevations of the reactor building was broken up during demolition.

The licensee entered this issue into the CAP as CR-ES-LCR-CR-2018-008 and subsequently stopped demolition activity, performed an investigation, initiated surveys, and redirected the reactor building ventilation exhaust. Because this issue was of very low safety significance (SL IV) and was entered into the CAP, this violation is being

treated as an NCV, consistent with section 2.3.2 of the NRC Enforcement Policy. (NCV 05000409/2018001-01, Inadequate Surveys of Reactor Building Ventilation Exhaust).

c. Conclusions

The inspectors identified a SL IV NCV of 10 CFR 20.1302(a), "Compliance With Dose Limits for Individual Members of the Public," for failing to perform appropriate surveys of radioactive materials in effluents released to unrestricted and controlled areas to demonstrate compliance with the dose limits for individual members of the public.

2.3 Solid Radioactive Waste Management and Transportation of Radioactive Materials (IP 86750)

a. Inspection Scope

The inspectors reviewed radioactive waste shipping documents for select shipments and conducted interviews of the responsible individuals to review compliance with NRC and DOT regulations.

b. Observations and Findings

The licensee shipped waste generated from the demolition of internal components of the reactor building to the disposal site in Clive, UT. All the wastes were NRC Class A waste and a DOT Type A quantity of Low Specific Activity (LSA)-II material.

The licensee's shipping manifests showed that personnel packaged, labeled, and marked each shipping container according to the DOT and 10 CFR Part 71 transportation requirements. The licensee verified that the results of radiation and removable contamination levels were within applicable limits. The waste manifests included all required information.

c. Conclusions

The inspectors determined that the licensee had complied with NRC and DOT regulations for shipments of radioactive waste.

**3.0 Confirmatory Survey**

3.1 Inspection of Remedial and Final Surveys at Permanently Shutdown Reactors (IP 83801)

a. Inspection Scope

The inspectors observed the confirmatory surveys of the west portion of Survey Unit 102 (excluding the excavated area of the RPGPA sump) and the circulating water discharge interior piping conducted by Oak Ridge Associated Universities (ORAU). The inspectors conducted the confirmatory surveys at Survey Unit 103 (L1-SUB-LES) and east portion of Survey Unit 104. The inspectors also reviewed the results of the FSSs and confirmatory surveys.

The inspectors verified the calibration of the gamma detector used to scan and analyze for any radioactive material in the pipes.

b. Observations and Findings

100% walk over scans were conducted during FSS and confirmatory surveys in the west portion of Survey Unit 102 (excluding the excavated area of the RPGPA Sump), Survey Unit 103 (L1-SUB-LES), and the east portion of Survey Unit 104. All the sampling results of biased and systematic samples were well below the operational Derived Concentration Guideline Levels (DCGLs), which were set at 25% of DCGLs from the draft LTP.

During the FSS, the licensee conducted static measurements at every foot of the circulating water discharge piping. ORAU conducted scans and selected static measurements at certain locations of the piping. No measurements were above minimum detectable concentrations, which were below the operational DCGLs.

c. Conclusions

The inspectors determined that the west portion of Survey Unit 102 (excluding the excavated area of the RPGPA sump), the circulating water discharge piping, Survey Unit 103 (L1-SUB-LES), and the east portion of Survey Unit 104 met the criteria specified in 10 CFR 20.1402.

#### **4.0 Independent Spent Fuel Storage Installation**

##### **4.1 Operation of an ISFSI (IP 60855)**

a. Inspection Scope

The inspectors evaluated the licensee's operation of the ISFSI from June 25 to June 27, 2018, to determine whether the licensee operated in accordance with the ISFSI Safety Analysis Report, CoC, Quality Assurance Program, and 10 CFR Part 72. Specifically, the inspectors verified that changes made to programs and procedures since the last inspection were evaluated against the requirements contained in 10 CFR 50.59 and 10 CFR 72.48, as applicable. The inspectors reviewed radiological survey records and conducted independent surveys of the ISFSI. Fuel records and annual inventory records were reviewed by the inspectors. Finally, the inspectors observed and evaluated the licensee's biennial emergency exercise on June 26, 2018.

b. Observations and Findings

The inspectors observed that the licensee was evaluating changes to the facility, programs, and procedures since the last inspection in accordance with 10 CFR 50.59, 10 CFR 72.48, and 10 CFR 72.212. Changes were consistent with the license and CoC and did not reduce the effectiveness of the applicable programs.

The licensee performed routine surveys and environmental radiological monitoring as required for the ISFSI. The survey results indicated that radiological conditions were in accordance with the 10 CFR 72.104 limits.

The inspectors found that the licensee was performing material control and accountability verifications of spent nuclear fuel stored at the ISFSI. The licensee maintained the necessary records of spent nuclear fuel stored at the ISFSI.

The inspectors conducted a walk-down of the ISFSI pad and observed staff perform daily surveillances of the casks, including inlet and outlet screen checks to ensure they were free of significant blockage or damage. The inspectors also evaluated the structural condition of the pad and casks.

A review of corrective action reports written since the last ISFSI inspection indicated that the licensee was effectively identifying and correcting conditions adverse to quality.

No findings were identified.

c. Conclusions

The licensee implemented its surveillance, maintenance, radiological monitoring, and quality assurance programs as it pertains to the ISFSI in accordance with applicable NRC requirements, the license, and the CoC.

## **5.0 Exit Meeting**

The inspectors presented the inspection results to Mr. Gerard van Noordennen on January 16, 2019. The licensee did not identify any of the documents or processes reviewed by the inspector as proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## **SUPPLEMENTAL INFORMATION**

### **PARTIAL LIST OF PERSONS CONTACTED**

J. Nowak, LaCrosseSolutions, Site General Manager  
J. Spaide, LaCrosseSolutions, D&D Manager  
J. Jacobsen, LaCrosseSolutions, Radiation Protection Manager  
C. Olson, Dairyland Power Cooperative, ISFSI Manager  
J. Henkelman, Dairyland Power Cooperative, Quality Assurance Specialist

### **INSPECTION PROCEDURES USED**

IP 37801	Safety Reviews, Design Changes and Modifications
IP 60855	Operation of an ISFSI
IP 71801	Decommissioning Performance and Status Review
IP 83750	Occupational Radiation Exposure
IP 84750	Effluent and Environmental Monitoring
IP 86750	Transportation of Radioactive Materials
IP 83801	Final Status Surveys at Permanently Shutdown Reactors

### **ITEMS OPENED, CLOSED, AND DISCUSSED**

<u>Opened</u>	<u>Type</u>	<u>Summary</u>
05000409/2018001-01	NCV	Inadequate Surveys of Reactor Building Ventilation Exhaust

<u>Closed</u>	<u>Type</u>	<u>Summary</u>
05000409/2018001-01	NCV	Inadequate Surveys of Reactor Building Ventilation Exhaust

Discussed  
None



## **PARTIAL LIST OF DOCUMENTS REVIEWED**

The following is a partial list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

- 1st and 2nd Quarter 2018 VCC 1 through 5 Surveys
- 2016 ISFSI Isolation Zone Fence Survey
- 2016 VCC 1 thru 5 Surveys
- 2016 VCC and Pad Inspection Report; 9/9/2016
- 2017 ISFSI Isolation Zone Fence Survey
- 2017 VCC 1 through 5 Surveys
- 2017 VCC and Pad Inspection Report; 7/21/2017
- 2018 ISFSI Isolation Zone Fence Surveys
- 2018-EX-001; LACBWR ISFSI Annual Exercise; 6/26/2018
- 2018 SNM Inventory
- 50.59 Screening No. 2018-04; LaCrosse Mobile LWP System Operating Procedure; Revision 0
- 50.59 Screening No. 2017-003; LaCrosse Mobile LWP System Operating Procedure; Revision 0
- 50.59 Evaluation No. 2018-001; Install Additional Transfer Trunks; Revision 2
- 50.59 Evaluation No. 2018-001; Move Transfer Tanks From RX Building to Outdoors; Revision 0
- 50.59 Evaluation No. 2018-001; Install Additional Transfer Tanks; Revision 1
- A-16-001; LACBWR ISFSI Program Compliance Audit; 8/17/2016
- A-18-001; LS Decommissioning Program and ISFSI Audit; 7/12/2018
- A-18-002; Internal QA Audit; 10/4/2018
- Audit Report No. 2017-003; LACBWR ISFSI Document Control and Records Retention; 10/5/2017
- Audit Report No. 2017-004; LACBWR ISFSI Emergency Plan; 7/26/2017
- CORP-17-010; Internal Audit Report; Revision 1
- CORP-18-002; Internal Audit Report; Revision 0
- EPP-20.01; Emergency Plan Procedure; Issue 12
- EPP-20.02; Emergency Plan Procedure; Issue 12
- EPP-20.03; Emergency Plan Procedure; Issue 12
- EPP-20.04; Emergency Plan Procedure; Issue 8
- EPP-20.05; Emergency Plan Procedure; Issue 10
- EPP-20.06; Emergency Plan Procedure; Issue 5
- EPP-20.08; Emergency Plan Procedure; Issue 10
- ES-LCR-CR-2017-0048; DOT Inspector's Observations; 7/29/2017
- ES-LCR-CR-2017-0092; Issue Review for Condition Report ES-LCS-CR-2017-0063; 12/12/2017
- ES-LCR-CR-2018-004; Failure to Perform a Prompt Evaluation of a Degraded Fire Protection Condition; 1/11/2018
- ES-LCR-CR-2018-008; An Elevated Monitoring Well Sample Reported; 1/8/2018
- ES-LCR-CR-2018-0029; Circulating Water Discharge Pipe Grouting Operation; 5/7/2018
- ES-LCR-CR-2018-0040; No DWP Was Developed for Two Activities Involving Liquid Radwaste; 6/12/2018
- ES-LCR-CR-2018-0042; A Number of Concerns Were Noted With Closed Condition Report CR-2018-0008; 6/13/2018

- ES-LCR-CR-2018-0043; 2017 LACBWR Annual Radiological Environmental Operating Report Area of Concern; 6/13/2018
- ES-LCR-CR-2018-0046; Concerns With the Implementation of the Qualified Technical Review Process; 6/14/2018
- ES-LCR-CR-2018-0047; Procedure LC-RP-PR-018; Radioactive Material Identification and Control Process Not Fully Accurate; 6/13/2018
- ES-LCR-CR-2018-0048; CR-2018-008 Prematurely Closed; 6/13/2018
- ES-LCR-CR-2018-0053; Reactor Building Instability; 7/17/2018
- ISFSI 10 CFR 72.212 Report; Revision 6
- La Crosse Boiling Water Reactor Independent Spent Fuel Storage Installation Fire Hazards Analysis; Revision 6
- LACBWR ISFSI Emergency Plan; Revision 36
- LC-AD-PR-005; Work Control Procedure; Revision 1
- LC-QA-PR-001; QA Program Implementation; Revision 1
- LC-QA-PR-002; Quality Assessments; Revision 0
- LC-QA-PN-001; Final Status Survey Quality Assurance Project Plan; Revision 1
- LC-RA-PR-001; Regulatory Reviews; Revision 3
- LC-RP-PG-005; Offsite Dose Calculation Manual; Revision 6
- LC-TR-PG-001; LACBWR Training Program, Revision 5
- M-18-06; Eplan Drill; 4/3/2018
- M-18-09; Eplan Drill; 4/9/2018
- M-18-11; Eplan Drill; 4/24/2018
- M-18-10; Eplan Drill; 4/24/2018
- M-18-12; Eplan Drill; 4/25/2018
- M-18-13; Eplan Drill; 4/15/2018
- NAC-MPC Final Safety Analysis Report; Revision 10
- NGET Training, May 2018
- QA Surveillance 17.03; ISFSI Licensing Conditions; 4/13/2017
- Radworker Refresher Training, Revision 2
- RE-2016-013; NAC 10 CFR 72.48 Determination NAC-16-MPC-017; Revision 0
- RE-2017-002; Revise Fire Hazards Analysis (FHA) for the DPC LACBWR ISFSI; Revision 0
- RE-2017-007; FPP-20.00; Revision 2
- RPP-20.00; Radiation Protection Program; Revision 5
- S-18-005; Radwaste Regulatory Compliance
- S-18-006; Groundwater Strategy and Investigation
- S-18-007; Final Status Survey (FSS) and Related Activities
- S-18-008; Proposed Fire Protection Program Changes
- SA-16-001; 2016 Triennial NAC Audit; 5/11/2016
- Waste Segregation and Packaging Training; Revision 1
- WI-FP-20.01; Control of Ignition Sources; Revision 1
- WI-FP-20.02; Fire Prevention Inspection; Revision 1
- WI-QA-01; VCC Heat Removal System Monitoring; Revision 3
- WI-QA-06; Special Nuclear Material Control and Accounting; Revision 1
- WI-QA-08; Performing 72.48 Screening of FSAR Revisions; Revision 1
- WI-VCCM-001; VCC Maintenance; Revision 1

## INITIALISMS AND ACRONYMS

- ADAMS	Agencywide Documents Access and Management System
- ALARA	As Low As Is Reasonably Achievable
- CAP	Corrective Action Program
- CFR	Code of Federal Regulations
- Ci	Curie
- CoC	Certificate of Compliance
- CVS	Contamination Verification Survey
- DAC	Derived Air Concentration
- DCGLs	Derived Concentration Guideline Levels
- DOT	Department of Transportation
- DNMS	Division of Nuclear Materials Safety
- EN	Event Notification
- FPP	Fire Protection Program
- FSS	Final Status Survey
- HEPA	High-Efficiency Particulate Air
- IMC	Inspection Manual Chapter
- IP	Inspection Procedure
- ISFSI	Independent Spent Fuel Storage Installation
- LACBWR	La Crosse Boiling Water Reactor
- LTP	License Termination Plan
- LSA	Low Specific Activity
- mrem	Milli-rem
- NCV	Non-Cited Violation
- NRC	U. S. Nuclear Regulatory Commission
- ORAU	Oak Ridge Associated Universities
- pCi/L	picoCuries/Liter
- RPGPA	Reactor Plant Generator Plant Access
- SL	Severity Level
- TS	Technical Specification