March 23, 2011

Mr. W. L. Berg
General Manager
Dairyland Power Cooperative
3200 East Avenue South
P.O. Box 817
La Crosse, WI 54602-0817

SUBJECT: NRC INSPECTION REPORTS 072-00046/09-01(DNMS) AND 050-00409/09-02(DNMS) - LA CROSSE BOILING WATER REACTOR INDEPENDENT SPENT FUEL STORAGE INSTALLATION

Dear Mr. Berg:

On March 4, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed its inspection of the dry cask storage pad construction activities at the shutdown La Crosse Boiling Water Reactor facility. The purpose of the inspection was to determine whether the dry cask storage pad design and construction activities were conducted safely and in accordance with NRC requirements and design specifications. At the conclusion of the inspection on March 4, 2011, during an exit teleconference, the NRC inspectors discussed the inspection results with members of your staff. The enclosed report presents the results of this inspection.

The inspection was an examination of the dry fuel storage pad construction activities as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Specifically, the inspectors observed placement of structural fill, reinforcement, and concrete for the storage pad. The inspectors also performed an in-office review of structural calculations related to the storage pad and the haul path. Areas examined during the inspection are identified in the enclosed report. Within these areas, the inspection consisted of selected examinations of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of these inspections, the inspectors did not identify any violations of NRC requirements.

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

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

Sincerely,

/RA/

Christine A. Lipa, Chief
Materials Control, ISFSI, and
Decommissioning Branch

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

Enclosure:
NRC Inspection Reports 072-00046/09-01(DNMS)
and 050-00409/09-02(DNMS)

cc w/encl: M. Brasel, Plant Manager
B. D. Burks, P.E., Director, Bureau of Field Operations
J. Mettner, Chairman, Wisconsin Public
Service Commission
Spark Burmaster, Coulee Region Energy Coalition
State Liaison Officer
Chief, Radiation Protection Section, Division of Health,
WI Department of Health and Social Services

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WI Department of Health and Social Services

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos.	072-00046; 050-00409
License No.	DPR-45
Report Nos.	072-00046/09-01(DNMS) and 050-00409/09-02(DNMS)
Licensee:	Dairyland Power Cooperative
Facility:	La Crosse Boiling Water Reactor
Location:	Genoa, WI
Inspection Dates:	Onsite: May 11 – 14, 2009; Apr 12 – Apr 16, 2010; August 18 – 19, 2010; September 29, 2010; and November 23, 2010 In-Office review May 2009 – March 4, 2011
Inspectors:	Jeremy Tapp, Health Physicist Jim Neurauter, Senior Reactor Inspector Matthew Learn, Reactor Engineer Lionel Rodriguez, Reactor Engineer Wayne Slawinski, Senior Health Physicist
Approved by:	Christine A. Lipa, Chief Materials Control, ISFSI, and Decommissioning Branch Division of Nuclear Materials Safety

Enclosure

EXECUTIVE SUMMARY

La Crosse Boiling Water Reactor (LACBWR)
NRC Inspection Reports 072-00046/09-01(DNMS) and 050-00409/09-02(DNMS)

The purpose of the inspection was to observe and evaluate the licensee's activities associated with construction of a new Independent Spent Fuel Storage Installation (ISFSI) storage pad. During this inspection period, the inspectors also reviewed the design of the new storage pad to ensure compliance with the regulations and the design specifications.

Review of 10 Code of Federal Regulations 72.212(b) Evaluations, Appendix A, Review of ISFSI Storage Pad Design

- The inspectors concluded that the licensee adequately characterized and remediated the subsurface soil conditions at the new ISFSI site and that the ISFSI storage pad was designed in accordance with the Certificate of Compliance, Title 10 Code of Federal Regulations (CFR) Part 72 requirements, and industry standards. (Section 1.1)

Independent Spent Fuel Storage Pad Construction

- The soil excavation, backfill, and compaction activities were performed in accordance with the construction specifications, design drawings, and industry standards. (Section 2.1)

- The inspectors concluded that the construction activities for the ISFSI concrete storage pad complied with approved construction specifications, design drawings, and applicable industry standards. (Section 2.2)

- The inspectors concluded that the licensee adequately evaluated the proposed heavy haul path route for the expected dry cask loads. (Section 2.3)

Report Details

1.0 Review of Title 10 Code of Federal Regulations (CFR) 72.212(b) Evaluations, Appendix A, Review of Independent Spent Fuel Storage Installation (ISFSI) Storage Pad Design (60856)

1.1 Site Characterization and Design of the ISFSI Pad

a. Inspection Scope

The inspectors reviewed licensee documentation that demonstrated the cask storage pads and soil beneath the storage pad have been designed to adequately support the static and dynamic loads of the storage casks, considering potential amplification of earthquakes through soil-structure interaction, soil liquefaction potential, or other soil instability due to vibratory ground motion.

b. Observations and Findings

The inspectors performed a review of the ISFSI storage pad design using guidance provided in Appendix A of Inspection Procedure (IP) 60856, "review of 10 CFR 72.212(b) Evaluations. Specifically, the inspectors reviewed:

- Geotechnical data from soil borings that characterized soil beneath the storage pad,
- Calculation that evaluated the potential for soil liquefaction that resulted in soil beneath the storage pad to be compacted to eliminate the risk of soil liquefaction,
- Calculation that translated seismic acceleration data applied at the base of the reactor building to the free field ground surface at the ISFSI storage pad and evaluated soil-structure interaction of the ISFSI storage pad,
- Calculation that established soil parameters for input into the cask storage pad design calculation, and
- Calculation for the cask storage pad design that demonstrated the storage pad will adequately support both static and dynamic loads resulting from partial and total loads that the pad could experience.

The inspectors initiated review of the above documents in May of 2009:

- Soil borings were to sufficient depth to demonstrate the subsurface profile was similar to that at the reactor building. The licensee generated an artificial time history from the LACBWR seismic design response spectra using NRC guidance specified in Standard Review Plan (SRP) 3.7.1, "Seismic Design Parameters," Revision 2. This artificial seismic time history was used to evaluate the soil-structure interaction at the storage pad.
- The licensee established soil design parameters that included parameters based upon proposed soil remediation through vibro-compaction methods. The targeted soil density beneath the storage pad was used to eliminate the risk of soil liquefaction. In addition, post vibro-compaction soil parameters were used as input to the calculation that established soil parameters for input into the cask storage pad design calculation. However, the licensee was not able to achieve targeted soil density remediation through the vibro-compaction method. Therefore, inspection activities related to the design of the ISFSI storage pad was suspended.

In April 2010, the inspectors resumed inspection activities related to the design of the ISFSI storage pad. Specifically, the inspectors reviewed licensee documentation to verify:

- Soil beneath the pad was excavated to depth where soil density was not remediated through the vibro-compaction method,
- Design change requests related to the installation of fill and compaction of replacement soil were controlled, evaluated, and incorporated into design documentation, and
- Calculation for the cask storage pad design demonstrated the storage pad will adequately support both static and dynamic loads resulting from partial and total loads that the pad could experience.

No findings of significance were identified.

c. Conclusion

The inspectors concluded that the licensee adequately characterized and remediated the subsurface soil conditions at the new ISFSI site and that the ISFSI storage pad was designed in accordance with the Certificate of Compliance, 10 CFR Part 72 requirements, and industry standards.

2.0 Independent Spent Fuel Storage Installation Pad Construction (60853)

2.1 Excavation and Soil Compaction Activities

a. Inspection Scope

The inspectors observed soil and engineered fill compaction activities for the new dry cask storage pad to verify the licensee's compliance with its specifications, design drawings, and industry standards.

b. Observations and Findings

The licensee constructed a reinforced concrete ISFSI storage pad south of the adjacent coal fired plant coal pile. The licensee excavated the soil, ensuring removal of topsoil, organic, and all undesirable material. The licensee then proceeded to perform vibro-compaction of the subgrade to achieve the required design soil density results. After vibro-compaction efforts did not prove effective in establishing the required soil density, the licensee stopped work and initiated design changes to attain the required soil density of the subgrade. The licensee then proceeded with work under the approved design change requests incorporated into their construction specification and received satisfactory compaction results for the subgrade.

Following receipt of the satisfactory results, the licensee backfilled the area with non-frost susceptible granular fill and compacted it to a minimum of 95 percent of the maximum dry density as indicated in American Society for Testing and Materials (ASTM) D1557.

The inspectors observed construction personnel fill the over excavated subgrade with clean stone and compact as required per the construction specifications. The inspectors reviewed the results of the required moisture density tests to verify the clean stone was compacted to the value specified in the construction specifications and taken at the required frequency. The inspectors also reviewed the qualifications and training received by the certified testing personnel to ensure it was adequate for the work being performed and in accordance with the construction specification requirements. In addition, the inspectors reviewed the sieve analysis of the structural fill to verify the aggregate size met the design specification requirements.

The site performed soil plate load tests for the engineered fill to determine the value of Young's Modulus. This parameter measures the stiffness of the material and was calculated using field tests. There is a maximum limit required to ensure the pad's structural qualifications are met. The maximum limit ensures that the deceleration values of the fuel assemblies would not exceed design requirements during a postulated non-mechanistic tip-over of the cask. The licensee's design required the Young's Modulus to be less than or equal to 10 kilo-pound-force per square inch (ksi). The licensee utilized ASTM D1196 to determine the Young's Modulus of the compacted fill. In this standard a load is incrementally applied to a test plate resting on the fill. The load is measured by a load cell and the deflection of the plate is measured to determine the settlement. From the amount of applied load and the corresponding settlement, the Young's Modulus is determined. The inspectors reviewed the licensee's data and the value of Young's Modulus met the license requirement.

No findings of significance were identified.

c. Conclusion

The soil excavation, backfill, and compaction activities were performed in accordance with specifications, design drawings, and industry standards.

2.2 Pad Construction Activities

a. Inspection Scope

The inspectors evaluated whether construction activities for the ISFSI concrete storage pad complied with the construction specifications, design drawings, and applicable industry standards. The inspectors also reviewed select material and concrete documentation (batch plant tickets) and a licensee quality assurance audit report.

b. Observations and Findings

The dry cask storage system selected is the NAC International Multi-Purpose Canister (MPC) vertical cask storage system. The storage pad is designed to provide a storage capacity for 5 storage casks and is a reinforced concrete slab, 3-feet thick, placed on a 4-inch thick concrete mat foundation.

Placement of Reinforcing Steel

After placement and satisfactory compaction of the structural fill, the licensee placed a 4-inch concrete mat (mud mat) which provided a work surface to facilitate reinforcement bar (rebar) installation and concrete placement. The licensee then installed forms and placed rebar. The reinforced concrete was designed for a nominal compressive strength between 4,000 pounds per square inch (psi) and 6,000 psi at 28 days and the rebar conformed to ASTM A615 Grade 60 steel.

After the forms had been placed and the rebar installed, the licensee performed an inspection of the area prior to concrete placement. The inspectors reviewed the design drawings and performed an independent walk down of the proposed storage pad. The pad area was free of debris and excessive moisture. The rebar was placed in two upper and lower layers joined by U-shaped bars. The licensee placed the correct size of rebar. The inspectors measured the spacing between the rebar and verified it was installed in accordance with the design specifications. The inspectors also confirmed the rebar tensile and yield strength values met the ASTM A615 Grade 60 requirements. In addition, the inspectors reviewed an audit conducted at the Ambassador Steel Fabrication plant. The audit was found to be of the appropriate scope and depth and reviewed applicable quality assurance standards.

Placement of Concrete for Storage Pad

The storage pad was designed and constructed in accordance with American Concrete Institute (ACI) 349 “Code Requirements for Nuclear Safety-Related Concrete Structures”, and ACI 301 “Specifications for Structural Concrete.”.

Due to low ambient temperatures before concrete placement, the licensee covered the subgrade, mudmat, forms, and rebar of the proposed pad and warmed the area for several days prior to concrete placement. The inspectors observed concrete placement of the main storage pad. The licensee deposited concrete in one continuous placement. The licensee checked the concrete batch tickets for every truck to confirm that each concrete batch was mixed as specified in the mix design and the mixing time and number of drum revolutions satisfied code requirements to ensure the concrete was suitable for placement. The concrete was tested prior to placement. The inspectors reviewed the batch plant tickets for adherence to the licensee’s design and ACI and ASTM standards. The inspectors reviewed the cement mill test report aggregate reports to verify those materials met the applicable industry standards.

The inspectors observed that the concrete was transported by conveyor belt and deposited in the areas of placement as indicated by the forms. The contractor used a systematic pattern of vibration to ensure proper consolidation, thereby preventing voids in the concrete slab. The licensee applied a broom finish as required by the design to the pad after placement in order to achieve the appropriate surface friction factor.

The licensee covered the ISFSI following pad placement and maintained the newly placed concrete in accordance with the cold weather protection plan required by the construction specification due to low ambient temperatures.

Concrete Field Tests

The licensee's contractor obtained concrete samples approximately every 40 cubic yards to test air content, temperature, and slump tests. All field tests but one slump test were satisfactory and within the allowed acceptance criteria and the required number of tests were performed in accordance with the design specification and ACI 318 "Building Code Requirements for Structural Concrete." For the slump test outside the allowed acceptance criteria, the licensee evaluated the results and documented the conclusion and acceptance as-is in Corrective Action Report (CAR) 2011-012.

In addition to the field tests, the qualified individuals collected the code required number of concrete samples in cylinders for the concrete strength tests. The cylinders were adequately stored in accordance with ACI and ASTM standards. The cylinders were cured and tested after 28 days by an independent laboratory to measure the compressive strength of the concrete.

The inspectors reviewed the 28 day concrete compressive strength test results taken from the storage pad to ensure they met the minimum strength of 4,000 psi and maximum of 6,000 psi as specified by the design requirements. All strength tests resulted in compressive strength values within the required range described above.

The inspectors also reviewed documentation regarding the batch plant certification which was certified in accordance with the National Ready Mixed Concrete Association.

c. Conclusion

The inspectors concluded that the construction activities for the ISFSI concrete storage pad complied with approved construction specifications, design drawings, and applicable industry standards.

2.3 Dry Cask Transfer Route

a. Inspection Scope

The inspectors reviewed the licensee's heavy haul road design and underground utilities calculations to verify that the licensee evaluated the proposed transfer route for the expected loads.

b. Observations and Findings

The licensee evaluated the haul path road design and associated pads for the maximum loading due the moving heavy haul trailer using industry standards and the project design criteria. Identified underground utilities including piping, conduits, duct banks, and manholes located along the haul path, and the pads were evaluated for the heavy loads and were found to be either acceptable as-is or needing additional protection. The inspectors verified that the licensee had actions in-place to provide additional protection at the reinforced concrete pipe locations identified in calculation 08785-081-ST-05, CAR No. 2010-087. However, the inspectors identified deficiencies in the calculations including: 1) calculation 08785-081-CE-03 did not specify a minimum thickness for the proposed plate to reduce the bearing pressure on the heavy haul path pavement under the hydraulic jacks that support the weight of the vertical concrete cask and heavy haul trailer, and 2) calculation 08785-081-ST-05 indicated manholes were acceptable in the summary of calculation results, but the calculation specified the heavy haul trailer to come no closer than 5 feet to the wall of Electrical Manhole #5 (this requirement was detailed on Drawing S-018). The licensee entered these deficiencies into their corrective action program as CAR 2011-011 and CAR 2011-010, respectively.

c. Conclusion

The inspectors concluded that the licensee adequately evaluated the proposed heavy haul path route for the expected dry cask loads.

3.0 Management Meetings

3.1 Exit Meeting Summary

On March 4, 2011, the inspectors conducted an exit teleconference to present the results of the inspection to Mr. M. Brasel, Plant Manager, and other members of the licensee staff. The licensee acknowledged the results presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

3.2 Interim Exit Meeting Summary

On November 5, 2010, the inspectors presented inspection results related to the ISFSI pad design to Mr. M. Brasel, Plant Manager, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

Attachment: Supplemental Information

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

M. Brasel, Plant Manager
J. McRill, Technical Support Engineer
L. Nelson, Quality Assurance Manager
D. Tesar, Technical Support Engineer
L. Peters, Project Engineer

INSPECTION PROCEDURES USED

IP 60853	Construction of an Independent Spent Fuel Storage Installation
IP 60856	Review of 10 CFR 72.212 (b) Evaluations, Appendix A, Review of ISFSI Storage Pad Design

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened	None
Closed	None
Discussed	None

LIST OF ACRONYMS USED

ACI	American Concrete Institute
ADAMS	Agencywide Documents Access Management System
ASTM	American Society for Testing and Materials
CAR	Corrective Action Report
CFR	Code of Federal Regulations
DCR	Design Change Record
DPC	Dairyland Power Cooperative
IP	Inspection Procedure
ISFSI	Independent Spent Fuel Storage Installation
ksi	kilo-pound-force per square inch
LACBWR	La Crosse Boiling Water Reactor
MPC	Multi-Purpose Canister
NRC	U.S. Nuclear Regulatory Commission
psi	pound-force per square inch
SRP	Standard Review Plan
WI	Work Instruction
WIC	Work Instruction Change
WO	Work Order

Attachment

LIST OF DOCUMENTS REVIEWED

The following is a 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 of 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.

ISFSI Storage Pad Design (IP 60856)

- Braun Intertec Corporation Project LC-06-06320; Geotechnical Drilling and Soil Testing; dated May 22, 2007
- Braun Intertec Corporation Project LC-08-00044; Geotechnical Drilling and Soil Testing; dated May 14, 2008
- Calculation 8785-081-CE-01; Soil Parameters for ISFSI Pad Design; Revision 2
- Calculation 8785-081-CE-01; Soil Parameters for ISFSI Pad Design; Revision 5
- Calculation 8785-081-ST-01; Cask Storage Pad Design; Revision 0
- Calculation 8785-081-ST-01; Cask Storage Pad Design; Revision 1
- Calculation 8785-081-ST-02; Soil Structure Interaction Analysis of ISFSI Pad; Revision 0
- Calculation 8785-081-ST-02; Soil Structure Interaction Analysis of ISFSI Pad; Revision 2
- Calculation 8785-081-ST-02; Soil Structure Interaction Analysis of ISFSI Pad; Revision 3
- Calculation 8785-081-ST-03; Soil Liquefaction Evaluation; Revision 0
- Calculation 8785-081-ST-03; Soil Liquefaction Evaluation, CPT Test Results; Revision 1
- CAR 2010-052; Corrective Action Report: Calculation Error Discovered in Calculation 081-ST-01, Revision 0; dated April 19, 2010
- DCR 10-01-02; Design Change Record; approval date July 23, 2010
- DCR 10-01-03; Design Change Record; approval date July 26,2010
- DCR 10-01-04; Design Change Record; approval date July 30, 2010
- DCR 10-01-05; Design Change Record; approval date August 17, 2010
- DCR 10-01-06; Design Change Record; approval date August 18, 2010
- Drawing S-001; ISFSI Heavy Haul Path, Site Layout & General Notes; Revision B
- Drawing S-006; ISFSI Soil Remediation Plan (Vibro-Compaction); Revision A
- Drawing S-007; ISFSI Cross Section A-A; Revision A
- Drawing S-013; ISFSI Storage Pad, Plan, Sections & Details; Revision A
- Drawing S-014; ISFSI Site Layout; Revision A
- Drawing S-015; ISFSI Excavation Plan; Revision B
- Drawing S-016; ISFSI Excavation Cross Section B-B; Revision B
- Specification 6564-17; Technical Specification for Vibro-Compaction and Verification Testing of Soils Beneath ISFSI; Revision A
- WO-09-01; 10 CFR 50.59 Screen Form: LACBWR ISFSI Site Vibro-Compaction and Verification Testing; Revision 0

Excavation and Soil Compaction Activities

- Drawing S-016; ISFSI Excavation Cross Section B-B; Revision B
- Drawing S-013; ISFSI Storage Pad, Plan, Sections & Details; Revision A
- Specification No. 6564-23; Technical Specification for the Earthwork, Grading, and Drainage for the Construction of the ISFSI Cask Storage Facility; approval date 2/12/2010

- Specification No. 6564-25; Technical Specification for the Concrete Work for the ISFSI; approval date 2/12/2010
- Braun Intertec Corp.; Sieve Analysis of Fine and Coarse Aggregates; dated June 9, 2010
- Braun Intertec Corp.; Training and Certification Records; August 19, 2010
- WI-10-11-01; ITS CAT C SOIL WORK FOR THE ISFSI PAD FOUNDATION AND HHP APPROACH; Revision 0
- Braun Intertec Corp.; Daily Field Notes, Report No. 31; dated July 28, 2010
- WIC No. 1 for WI 10-11-01; Work Instruction Change; approved July 19, 2010
- WIC No. 2 for WI 10-11-01; Work Instruction Change; approved July 19, 2010
- WIC No. 3 for WI 10-11-01; Work Instruction Change; approved July 20, 2010
- WIC No. 4 for WI 10-11-01; Work Instruction Change; approved July 28, 2010
- WIC No. 5 for WI 10-11-01; Work Instruction Change; approved July 30, 2010
- WIC No. 6 for WI 10-11-01; Work Instruction Change; approved August 12, 2010
- Braun Intertec Corp.; LACBWR – Soil Verification Testing; dated October 11, 2010
- DCR 10-01-02; Design Change Record; approval date July 23, 2010
- DCR 10-01-03; Design Change Record; approval date July 26,2010
- DCR 10-01-04; Design Change Record; approval date July 30, 2010
- DCR 10-01-05; Design Change Record; approval date August 17, 2010
- DCR 10-01-06; Design Change Record; approval date August 18, 2010
- Drawing S-006; ISFSI Soil Remediation Plan (Vibro-Compaction); Revision A
- Drawing S-007; ISFSI Cross Section A-A; Revision
- Specification 6564-17; Technical Specification for Vibro-Compaction and Verification Testing of Soils Beneath ISFSI; Revision A
- WO-09-01; 10 CFR 50.59 Screen Form: LACBWR ISFSI Site Vibro-Compaction and Verification Testing; Revision 0

Pad Construction Activities

- Steel Dynamics, Inc.; Certified Material Test Report; Issued 9/3/2009
- Rocky Mountain Steel; Material Test Report; Printed June 30, 2010
- Rocky Mountain Steel; Material Test Report; Printed May 11, 2010
- Nucor Steel Kankakee, Inc.; Certified Mill Test Report; September 13, 2009
- Nucor Steel Kankakee, Inc.; Certified Mill Test Report; April 30, 2010
- Nucor Steel Kankakee, Inc.; Certified Mill Test Report; April 14, 2009
- Nucor Steel Kankakee, Inc.; Certified Mill Test Report; August 5. 2009
- Rocky Mountain Steel; Material Test Report; Printed April 27, 2010
- Surveillance Report No. 99-38; Ambassador Steel Fabrication plant audit; September 3, 2010
- Specification No. 6564-25; Technical Specification for the Concrete Work for the ISFSI; approval date 2/12/2010
- Lafarge, Cement Mill Test Report; dated August 11, 2010
- County Materials Corporation, Concrete Aggregate Sieve Analysis; dated June 11, 2010
- Braun Intertec Corp.; Report of Concrete Compression Tests; dated December 21, 2010
- River City Ready Mix; Batch Tickets from November 23, 2010 placement
- National Ready Mixed Concrete Association; Certificate of Conformance For Concrete Production Facilities, LaCrosse Plant No. 1, River City Ready Mix; dated December 22, 2009

Dry Cask Transfer Route

- 08785-081-CE-03; Heavy Haul Road Design; Revision 1
- 08785-081-ST-05; Underground Utilities Evaluation for the LACBWR Independent spent Fuel Storage Installation; Revision 0
- CAR 2010-087; Protection for Underground Concrete Pipe in Heavy Haul Path (HHP); dated July 27, 2010
- CAR 2011-010; Heavy Haul Path Drawing and Calculation Discrepancy; dated January 13, 2011
- Drawing S-001; ISFSI Heavy Haul Path, Site Layout & General Notes; Revision B
- Drawing S-001; ISFSI Heavy Haul Path: Site Layout & General Notes; Revision D
- Drawing S-002; ISFSI Heavy Haul Path: Site Layout, Stormwater, Erosion and Sediment Control Plan; Revision D
- Drawing S-003; ISFSI Heavy Haul Path: Site Layout, Stormwater, Erosion and Sediment Control Plan; Revision C
- Drawing S-004; ISFSI Heavy Haul Path: Site Layout, Stormwater, Erosion and Sediment Control Plan; Revision B
- Drawing S-005; ISFSI Heavy Haul Path: Site Layout & Parking Lot Layout Plan; Revision 0
- Drawing S-008; ISFSI Heavy Haul Path: Stormwater, Erosion and Sediment Control Details; Revision B
- Drawing S-009; ISFSI Heavy Haul Path: Traffic Control Sign Details; Revision A
- Drawing S-011; ISFSI Heavy Haul Path: Sections and Details; Revision C
- Drawing S-017; ISFSI Heavy Haul Path, Site Layout Barrier Plan, Sections and Details; Revision B
- Drawing S-018; ISFSI Heavy Haul Path: Site Layout; Revision A