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LAC-14469
ENCLOSURE 1
March 8, 2021

Description and Evaluation of Changes

**LICENSE AMENDMENT REQUEST FOR PROPOSED REVISION TO LA CROSSE BOILING WATER
REACTOR INDEPENDENT SPENT FUEL STORAGE INSTALLATION EMERGENCY PLAN**

DESCRIPTION AND EVALUATION OF CHANGES

1.0 SUMMARY DESCRIPTION

This license amendment request proposes changes to the LACBWR ISFSI Emergency Plan (E-plan) in accordance with 10 CFR 50.54(q). Dairyland Power Cooperative (DPC) proposes the changes to E-plan to adopt NAC-MPC Amendment No. 7 to the Certificate of Compliance (CoC) and NAC-MPC FSAR revision 12, enhance the Emergency Action Levels (EALs) and align the medical drills frequency to correspond with the hospitals all-hazards approach frequency. Additional changes are described below.

2.0 DETAILED DESCRIPTION

Since receiving NRC approval of ISFSI E-plan in 2014 (reference #2), the emergency preparedness program has matured as enhancements have been realized. Revisions 35 through 39 of the E-plan incorporated changes under 10 CFR 50.54(q)(3) (changes not requiring NRC approval).

The proposed E-plan revision (Enclosure 2) contains changes which have been reviewed considering the requirements of 10 CFR 50.54(q), the planning standards of 10 CFR 50.47(b), 10 CFR 50 Appendix E, and the Emergency Plan. The below changes listed in Sections 2.1 through 2.4 have been determined to decrease the effectiveness of the Emergency Plan and require NRC approval.

The E-plan revision also includes changes not requiring NRC approval. The proposed changes which do not require NRC approval are identified and provided in Enclosure 2.

2.1 NAC-MPC CoC/ FSAR Proposed Change

The NAC-MPC CoC amendment 7 and FSAR revision 12 have been adopted, which deletes requirements for heat removal due to the age of the spent fuel stored. A revision to the E-plan is necessary to implement the CoC/FSAR changes. Adopting the new amendment removes the requirement to conduct the post event ISFSI surveillance within 4 hours.

Since the license document, which provides the bases of the change, has been revised and approved by the NRC; this proposed change is appropriate.

Document Control Desk
LAC-14469
ENCLOSURE 1
March 8, 2021

2.2 Emergency Action Level (EAL) Proposed Change

LACBWR E-plan revision 34 and associated EAL were approved and provided a Safety Evaluation in a letter dated Sept 8, 2014 from the NRC. The SER approved the E-plan/EAL changes for the conversion to the ISFSI-only phase of emergency preparedness.

The revision 34 EALs listed calculated numbers which were 2 times (2xs) ISFSI Tech Spec A.3.2.2. as a threshold to declare an ALERT Emergency Classification Level (ECL). Since revision 34, the EALs were enhanced to the current E-Plan EALs:

≥ 500 μR/hr before reaching the Isolation Zone Fence,

OR

Measured dose rate at the Isolation Zone Fence exceeds the tag value in EPP-20.04 (2xs background)

OR

The 2xs ISFSI Tech Specs values previously approved in revision 34

Emergency Plan revision 35 enhancements of the Isolation Zone Fence Surveys allow for early detection of damage and activation of the emergency organization. Per the associated 10 CFR 50.54(q)(3) evaluation, the Emergency Classification Level of Alert is unchanged in this revision (35) except for the fact that the ALERT could be declared in a shorter time from following an accident or natural phenomena event.

LACBWR calculation 2013-03604 (Enclosure 3) provides the maximum dose rates after postulated tornado missile damage to a single ISFSI cask. The calculation was used to inform the current EAL values. The value prior to the fence and the readings at the fence were adopted to facilitate efficiency and effectiveness in emergency classifications. Providing the fence EAL value allows the Security Shift Supervisor (SSS) to evaluate and declare the emergency prior to the Radiation Protection Technicians arrival on site, without accumulating un-necessary dose and practicing ALARA fundamentals.

The proposed E-plan revision eliminates the "Measured dose rate at the Isolation Zone Fence exceeds the tag value in EPP-20.04" EAL criteria. The proposed EAL will have the following criteria:

≥ 500 μR/hr at the Isolation Zone Fence,

OR

The 2xs ISFSI Tech Specs values previously approved in revision 34

Document Control Desk
LAC-14469
ENCLOSURE 1
March 8, 2021

The EAL will maintain the “early detection of damage and activation of the emergency organization” and be based upon approved controlled documents (LACBWR calculation 2013-03604 and ISFSI Tech Spec Tech Spec A.3.2.2.).

The proposed EAL aligns with the corresponding Initiating Condition in that the damage is sufficient enough that the ISFSI loaded cask confinement boundary has the potential to be breached; and therefore appropriate.

2.3 Elimination of the Contaminated Medical Emergency Annual Frequency

During 2020’s Covid-19 crisis, it became apparent that the risk of a Contaminated Medical Emergency at LACBWR ISFSI is extremely low compared to other community-based risks for the Gundersen Health System. This provided a higher priority on a contamination event, which is contrary to the community-based risk assessment to meet the LACBWR E-plan annual drill requirement. Gundersen Health System is accredited by The Joint Commission and is in compliance with 42 CFR 482.15, “Condition of Participation: Emergency preparedness”. The regulations and accreditation requires the hospitals to maintain an emergency plan. The emergency preparedness program must include, but not be limited to, the following elements (excerpts from the 42 CFR 482.15 regulations; bold font emphasis added):

- (a) ***Emergency plan.*** The hospital must develop and maintain an emergency preparedness plan that must be **reviewed and updated at least every 2 years**. The plan must do the following:
 - (1) Be based on and include a documented, facility-based and **community-based risk assessment, utilizing an all-hazards approach**.
 - (2) Include strategies for addressing emergency events **identified by the risk assessment**.
 - (4) Include a **process for cooperation and collaboration with local, tribal, regional, State, and Federal emergency preparedness officials' efforts to maintain an integrated response** during a disaster or emergency situation.
- (b) ***Policies and procedures.*** The hospital must develop and implement emergency preparedness policies and procedures, based on the emergency plan set forth in paragraph (a) of this section, risk assessment at paragraph (a)(1) of this section, and the communication plan at paragraph (c) of this section. **The policies and procedures must be reviewed and updated at least every 2 years.**
- (d) ***Training and testing.*** The hospital must develop and maintain an emergency preparedness training and testing program that is based on the emergency plan set forth in paragraph (a) of this section, risk assessment at paragraph (a)(1) of this section, policies and procedures at paragraph (b) of this section, and the communication plan at paragraph (c) of this section. **The training and testing program must be reviewed and updated at least every 2 years.**

- (1) **Training program.** The hospital must do all of the following:
 - (i) Initial training in emergency preparedness policies and procedures to all new and existing staff, individuals providing services under arrangement, and volunteers, consistent with their expected role.
 - (ii) Provide emergency preparedness training at least every 2 years.
 - (iii) Maintain documentation of the training.
 - (iv) Demonstrate staff knowledge of emergency procedures.
 - (v) If the emergency preparedness policies and procedures are significantly updated, the hospital must conduct training on the updated policies and procedures.
- (2) **Testing.** The hospital must conduct exercises to test the emergency plan at least twice per year. The hospital must do all of the following:
 - (i) Participate in an annual full-scale exercise that is community-based; or
 - (A) When a community-based exercise is not accessible, conduct an annual individual, facility-based functional exercise; or
 - (B) If the hospital experiences an actual natural or man-made emergency that requires activation of the emergency plan, the hospital is exempt from engaging in its next required full-scale community-based exercise or individual, facility-based functional exercise following the onset of the emergency event.
 - (ii) **Conduct an additional annual exercise** that may include, but is not limited to the following:
 - (A) A second full-scale exercise that is community-based or an individual, facility-based functional exercise; or
 - (B) A mock disaster drill; or
 - (C) A tabletop exercise or workshop that is led by a facilitator and includes a group discussion, using a narrated, clinically relevant emergency scenario and a set of problem statements, directed messages, or prepared questions designed to challenge an emergency plan.
 - (iii) Analyze the hospital's response to and maintain documentation of all drills, tabletop exercises, and emergency events, and revise the hospital's emergency plan, as needed.

Therefore, the hospital uses an all-hazards approach to determine the community-based risk and priorities in its emergency response preparation (training, drills, etc.). Maintaining the Contaminated Medical Emergency annual frequency, especially in the LACBWR ISFSI-only

Document Control Desk
LAC-14469
ENCLOSURE 1
March 8, 2021

condition, places a false priority /risk and circumvents the 42 CFR 482.15 community-based all-hazards regulations for the hospital. The ambulance service is under different regulations (primarily state regulations) but serves the same demographic and has similar community-based risk and priority profile.

Public opinions matter in collaboration with the community on LACBWR ISFSI emergency preparedness. An example is the collaboration which occurs to perform for the hospital's community-based risk assessment (all-hazards planning). The inflated risk/priority of the LACBWR ISFSI annual Contaminated Medical Emergency's, incorrectly portrays the potential of the event and inflates the public opinion on the risk/priority.

This proposed change removes only the "annual" frequency of the Contaminated Medical Emergency; the proposed E-plan revision retains all other previous Offsite Response Organization (ORO) arrangements including training offered annually, participation in drills and pre-arrangements documented in Letters of Agreement (LOAs).

The 10 CFR Part 50 Appendix E and 10 CFR 50.47(b) regulations do not specify a frequency to perform the Contaminated Medical Emergency Drill. The annual frequency is specified in NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in support of Nuclear Power Plants". NUREG-0654 provides the NRC approved guidance how to comply with the regulations. Licensees "may voluntarily use the guidance in the document to demonstrate compliance" with the NRC regulations or provide "methods or solutions that differ from those described." The alternate method of basing the drill frequency on the ORO community-based risk assessment is appropriate and meets the intent of the planning standards.

The NRC interim staff guidance (ISG) NSIR/DPR-ISG-02, "Emergency Planning Exemption Requests for Decommissioning Nuclear Power Plants" provides additional guidance for NRC staff and licensees when evaluating /developing E-plans which adapt the permanently defueled 10 CFR 50.47 and Part 50 Appendix E regulation exemptions. Attachment 1 of the ISG provides an acceptable method for site undergoing decommissioning and implementing a Permanently Defueled Emergency Plan (PDEP). The appendix was developed from applicable evaluation criteria in NUREG-0654 based upon the exemptions. The Contaminated Medical Emergency Drill annual frequency is also specified in the ISG, therefore DPC's alternate method, as described above, is applicable to the ISG.

The E-plan proposal will eliminate the "annual" frequency and base the drill frequency on Gundersen Health System's community-based risk assessment and the all-hazards approach. The proposed E-plan change was discussed with the OROs (Gundersen Health System and Tri-State Ambulance) and their concurrence is documented in Enclosure #4.

The proposed change to the Contaminated Medical Emergency Drill frequency provides an acceptable alternate method to comply with 10 CFR Part 50 Appendix E and 10 CFR 50.47(b) regulations; and therefore appropriate.

2.4 Additional NRC Approval Proposed Changes

All changes requiring NRC pre-approval per 10 CFR 50.54(q)(4) are listed below.

Section	Description of Change
3.0	<p>LACBWR ISFSI has adopted NAC-MPC Amendment No. 7 to the Certificate of Compliance (CoC) and NAC-MPC FSAR revision 12. Adopting the revised NAC-MPC NRC approved documents, LACBWR ISFSI is no longer required per ISFSI Technical Specification to perform a post event ISFSI surveillance within 4 hours.</p> <p>50.54(q)(4) – The NAC-MPC Amendment No. 7 to the Certificate of Compliance (CoC) and NAC-MPC FSAR revision 12 are approved and accepted for the LACBWR ISFSI under separate NRC processes. Monitoring ISFSI post event radiological conditions still remains a function of the E-plan in Section 5.4. Refer to the above for additional information.</p>
Table 4.1	<p>Page 1 of Table 4.1: Row 1: Column 3: Delete “Measured dose rate at the Isolation Zone Fence exceeding the tag value in EPP-20.04” and Replace “≥ 500 μR/hr before reaching the Isolation Zone Fence” with “≥ 500 μR/hr at the Isolation Zone Fence”.</p> <p>50.54(q)(4) – Enhances the previously NRC approved EAL criteria (revision 34) by providing the ability to classify the emergency timely and effective manner without entering the ISFSI protected area (ALARA radiological principals). This method is an enhancement to the previously NRC approved EAL (revision 34), but the method provides additional EAL criteria and therefore requires NRC pre-approval. See above for additional details.</p>

5.0	<p>Section 5.2</p> <p>Delete "other appropriate Emergency Response Organization personnel" and insert the "Resource Manager" into the Notification and Activation process. The "Resource Manager" has been inserted into the remaining document as necessary.</p> <p>50.54(q)(4) - Establishing the Resource Manager position as the formal ERO position that the ERD will contact to assist and augment the ERD per the Emergency Plan. The Resource Manager will also be responsible for obtaining additional resources and news media communications. Since there is a change in the ERO specified in Emergency plan positions, this could be considered a change requiring NRC approval.</p> <p>Section 5.4.2</p> <p>Clarify that the ERD is responsible for authorizing emergency response radiological dose limits per EPA's "Response Worker Guidelines". During repair and response actions 10 CFR 20.1201 will not be exceeded.(5.4.2). Also added EPA "Response Worker Guideline" table.</p> <p>50.54(q)(4) - The changes corrects and adds clarification to the Emergency Plan. EPA Table 2-2, "Response Worker Guidelines" replaced 10 CFR 20.1201 annual dose limits. Since the Emergency plan specified lower limits, this could be considered a change requiring NRC approval.</p> <p>Section 5.5.2</p> <p>Deleted the specific information and process to decontaminate during a contaminated medical emergency. Section was replaced with a description of the ability to perform personal decontamination for any situation.</p> <p>50.54(q)(4) – The specific actions were replaced with Radiation Protection processes that more appropriately address general conditions. Due to the scope change of the decontamination function, NRC approval is required.</p> <p>Section 5.6</p> <p>Change "all ISFSI personnel" to "on-shift ISFSI personnel" having first aid training. The on-shift personnel are available 24/7.</p> <p>Delete the transportation methods. The ambulance/hospital will make the transport based upon condition of the injured and availability of the transport method. The helicopter was included in previous revisions of the e-plan because it was available and not necessary to perform this E-plan function.</p> <p>Specify that the ISFSI SSS will coordinate "on-site" actions. Once off-site actions are driven by the applicable processes.</p>
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	<p>50.54(q)(4) – The current E-plan unnecessarily over commits that “all” IFSFI personnel are first aid trained and the use of a helicopter for transporting injured personnel. This level of commitment is not required and was only made because of the established practice.</p> <p>Designating that the ISFSI SSS will coordinate “on-site” is a clarification of the SSS’s responsibility.</p> <p>The change removes over commitments and provides clarification. Due to the scope of the commitment being refined, NRC approval is required.</p> <p>Section 5.7</p> <p>Specify that “On-Shift” personnel are available to extinguish incipient fires verses “all”. And specify that the SSS/ERD will coordinate the Genoa Fire Dept. activities.</p> <p>50.54(q)(4) – The current E-plan unnecessarily over commits that “all” on-shift personnel are available to extinguish fires. This level of commitment is not required and was only made because of the established practice.</p> <p>Designating that the ISFSI SSS will coordinate “on-site” activity of the ORO is a clarification of the SSS’s responsibility.</p> <p>Because the section is refined in scope, NRC pre-approval is required.</p>
6.0	<p>Section 6.2</p> <p>Removed reference to the LLEA radio.</p> <p>50.54(q)(4) – Commitment to the LLEA radio is not necessary and not required per regulations. Regulations require primary and back-up communications systems. The commercial phone system, cell phones and portable FM radios provide the primary the on-site and off-site communications and back-up each other. The LLEA radio was an over commitment to the regulations.</p>
8.0	<p>Section 8.3.1</p> <p>Medical Drill annual frequency requirement was removed and reworded so that the Medical Drill frequency is based upon the hospital and ambulance training requirements and priorities.</p> <p>50.54(q)(4) – The medical drill frequency was eliminated due to the low risk and low probability that a contaminated injured event can occur at LACBWR ISFSI. This requirement puts a false priority for the drill to the offsite agencies. LACBWR will participate in the offsite agency drills when requested; based upon the agencies drills/training priorities and requirements. Refer to the above for additional detail of the change.</p>

	<p>Section 8.3.3</p> <p>Medical Emergency Drill Evaluations will be conducted per the offsite agencies policies and critique items associated with LACBWR ISFSI will be entered into the station's corrective action program.</p> <p>50.54(q)(4) – See above section 8.3.1 Medical Drill.</p>
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3.0 TECHNICAL EVALUATION

DPC is holder of Possession-Only License DPR-45 for the LACBWR ISFSI. The license, pursuant to the Atomic Energy Act of 1954 and 10 CFR Part 50, allows DPC to possess spent nuclear fuel at the permanently shutdown and defueled facility. The ISFSI is under the general license provisions of 10 CFR 72, Subpart K. Dismantlement and decommissioning of the LACBWR plant has been completed.

The SAFSTOR E-plan for LACBWR (Revision 10) was approved by the NRC July 8, 1988 (Reference 3). The Safety Evaluation Report (SER) documented for this approval established emergency planning requirements for LACBWR as documented in the approved E-plan. DPC requested and received approval for exemptions from 10 CFR 50.47 and 10 CFR Part 50 Appendix E emergency planning requirements as documented in NRC to DPC dated July 31, 2013, "La Crosse Boiling Water Reactor – Issuance of Exemption from Certain Emergency Planning Requirements" (Reference 1).

The LACBWR E-Plan reflecting the exemptions to the regulations and the ISFSI-only status (all spent fuel removed from the spent fuel pool and now located at the ISFSI) was approved via NRC to DPC letter dated September 8, 2014, "Issuance of Amendment Related to the Dairyland Power Cooperative La Crosse Boiling Water Reactor Request for Changes to the Emergency Planning Requirements" (Reference 2).

The proposed LACBWR E-Plan continues to meet the emergency planning requirements contained in 10 CFR 50.47 and in 10 CFR Part 50 Appendix E, as exempted.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

10 CFR 50.54(q)

Conditions of Licenses - Emergency Plans - Requires that a License Amendment

Request be submitted to the NRC for approval prior to implementation of changes to the Emergency Plan which are considered to constitute a "reduction in effectiveness."

Document Control Desk
LAC-14469
ENCLOSURE 1
March 8, 2021

10 CFR 50.47

Emergency Plans - All Sections as exempted.

10 CFR Part 50 Appendix E

Emergency Planning and Preparedness for Production and Utilization Facilities - All Sections as exempted.

The proposed change to the Emergency Plan continues to implement the applicable requirements of the regulations cited above. Therefore, the revised Emergency Plan provides reasonable assurance that public health and safety is not endangered by operation of the LACBWR ISFSI and continues to satisfy the planning standards set forth in 10 CFR 50.47(b) and 10 CFR Part 50 Appendix E as exempted.

4.2 No Significant Hazards Consideration Analysis

In accordance with 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit," DPC requests an amendment to Possession-Only License DPR-45 for the La Crosse Boiling Water Reactor. The proposed amendment would revise the Emergency Plan which reflects that all spent fuel has been transferred to the ISFSI. DPC has evaluated whether a significant hazards consideration is involved with the proposed amendment by focusing on the three conditions set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

DPC has in effect an NRC-approved E-plan. There are no longer credible events that would result in doses to the public beyond the owner-controlled area boundary that would exceed the EPA PAGs. LACBWR was shutdown 34 years ago. Emergency Planning Zones beyond the owner-controlled area and the associated protective actions are no longer required. No headquarters personnel, personnel involved in off-site dose projections, or personnel with special qualifications are required to augment the LACBWR Emergency Response Organization. The credible events for the ISFSI remain unchanged. The indications of damage to a loaded cask confinement boundary have been revised to enhance the ability to distinguish a degraded condition exists.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

DPC has in effect an NRC-approved E-plan. There are no longer credible events that would result in doses to the public beyond the owner-controlled area boundary that would exceed the EPA PAGs. LACBWR was shutdown 34 years ago. Emergency Planning Zones beyond the owner-controlled area and the associated protective actions are no longer required. Credible accidents involving the ISFSI have been analyzed and determined that none result in dose to the public beyond the owner-controlled boundary that would exceed the EPA PAGs. The accident analysis is contained in the ISFSI FSAR.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No.

Margin of safety is related to the ability of the fission product barriers (fuel cladding, reactor coolant system, and primary containment) to perform their design functions during and following postulated accidents. DPC has in effect an NRC-approved E-Plan. There are no longer credible events that would result in doses to the public beyond the owner-controlled area boundary that would exceed the EPA PAGs. LACBWR was shutdown 34 years ago. Emergency Planning Zones beyond the owner-controlled area and the associated protective actions are no longer required.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, DPC concludes that the proposed amendment does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of no significant hazards consideration is justified.

4.3 Conclusions

In conclusion, based on the considerations previously stated, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Document Control Desk
LAC-14469
ENCLOSURE 1
March 8, 2021

5.0 ENVIRONMENTAL CONSIDERATION

The proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or a significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure.

Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 REFERENCES

- 1) Letter, NRC to DPC dated July 31, 2013, La Crosse Boiling Water Reactor – Issuance of Exemption from Certain Emergency Planning Requirements
- 2) Letter, NRC to DPC dated September 8, 2014, Issuance of Amendment Related to the Dairyland Power Cooperative La Crosse Boiling Water Reactor Request for Changes to the Emergency Planning Requirements (Revision 34)
- 3) Letter, NRC to DPC dated July 8, 1988, Approval of Emergency Plan (Revision 10)