Docket No. 50-409

Mr. James W. Taylor, General Manager Dairyland Power Cooperative 2615 East Avenue South La Crosse, Wisconsin 54602-0816

Dear Mr. Taylor:

SUBJECT: LACBWR DECOMMISSIONING PLAN, REQUEST FOR ADDITIONAL INFORMATION (TAC-66950)

By application dated December 21, 1987 as revised February 22, 1988 you requested approval of a proposed Decommissioning Plan and proposed an amendment to the Technical Specifications for the La Crosse Boiling Water Reactor.

Euring our review of your application we determined that we need additional information as identified in Enclosure 1. Please provide your response by August 15, 1988. The reporting and/or recordkeeping requirements contained in this letter affect fewer than ten respondents; therefore, OMB clearance is not required under P.L. 96-511.

If there are any questions concerning these comments please contact me at (301) 492-1126.

Sincerely,

Original Signed By:

Peter B. Erickson, Project Manager Standardization and Non-Power Reactor Project Directorate Division of Reactor Projects III, IV, V and Special Projects Office of Nuclear Reactor Regulation

Enclosure: Reguest for Additional Information

cc: See next page

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UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D. C. 20555

July 7, 1988

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Enclosure: Request for Additional Information

cc: See next page

Mr. James W. Taylor Dairyland Power Cooperative Docket No. 50-409 La Crosse Boiling Water Reactor

cc:

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Fritz Schubert, Esquire Staff Attorney Dairyland Power Cooperative 2615 East Avenue South La Crosse, Wisconsin 54602

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U.S. Nuclear Regulatory Commission Resident Inspectors Office Rural Route #1, Box 276 Genoa, Wisconsin 54632

Town Chairman Town of Genoa Route 1 Genoa, Wisconsin 54632

Chairman, Public Service Commission of Wisconsin Hill Farms State Office Building P. O. Box 7854 Madison, Wisconsin 53707

Regional Administrator, Region III U.S. Nuclear Regulatory Commission 799 Roosevelt Road Glen Ellyn, Illinois 60137 REQUEST FOR ADDITIONAL INFORMATION FOR

PROPOSED DECOMMISSIONING PLAN LA CROSSE BOILING WATER REACTOR DAIRYLAND POWER COOPERATIVE

DOCKET NO. 50-409

- A. Decommissioning Plan SAFSTOR
 - 1. p. 1-2 Section 1 Section 1 Section 1 In addition to the technical reasons given in this section for choosing SAFSTOR, a financial reason, particularly for plants like La Crosse that are being shut down prior to projected end-of-life, is that SAFSTOR period allows additional time to accumulate decommissioning funds. This reason was implicitly stated in Section 6.7 and should be added to Section 1.1 for completeness.
 - This section describes leakage from the stainless steel 2. D. 2-4 Section 2.5.2 liner in the Fuel Element Storage Well (FESW). Describe whether the contaminated FESW water is collected to prevent release offsite without monitoring and possible processing. Provide data on the present FESW leakage rates and the maximum concentrations of the radionuclides. Provide also a safety analysis of the leakage. If FESW leakage is released offsite, determine radiological consequences to ascertain whether there are any safety implications. Discuss the history of the FESW leakage and what has been done and what can be done to repair it. Analyze the potential for an increase in the leakage and potential offsite exposure consequences.
 - 3. p. 3-5 Section 3.4.4 & 3.4.6 Provide a discussion on the effect of Mississippi River & 3.4.6 Number of the solution of the section of the
 - 4. p. 3-7 Section 3.4.7 This section should also address the effects of high water (Loss of pumps) on the ultimate heat sink. See question 3 above.

- 5. p. 3-7 Section 3.4.8 including potable water supply wells near the site and the potential for radioactive contamination from an accidental spill at the site. Provide the surficial aquifer parameters (permeability, specific yield and groundwater contour map) necessary to evaluate the groundwater travel times in the surficial aquifer.
- 6. p. 5-3 Commissioning Plan states that the "control rods Section 5.2.1 may be removed to the FESW or a licensed facility during SAFSTOR." Is the "licensed facility" a licensed disposal facility?
- 7. p. 5-13 Section 5.2-11 addition to 333 irradiated fuel elements. Provide justification why the 29 control rods in the reactor vessel are not transferred to the FESW as part of SAFSTOR program.
- P. 5-56 Discuss your plan for the disposition of sources of section 5.6 radioactivity associated with this decommissioning operation.
- 9. pp. 6-1 and 7-3. Sections 6.1 and 7.3.2 the Decommissioning Plan objectives include some decontamination and dismantlement. These operations should be addressed to discuss the specific systems and components, proposed decontamination methods, and expected waste generation. Expected quantities of wastes containing chelating agents and mixed wastes should be included.
- 10. p. 6-11 Section 6.7 The statement is made in Section 6.7 that "A later dismantling date will allow additional funds to accumulate to compensate for the cost of inflation." This is generally true but it presupposes that the inflation rate for decommissioning cost will be less than annual rate of interest earnings on the decommission fund. In support of this and similar statements such as on page 6-13, the licensee should provide the assumptions of and bases for inflation and interest rates used in the Decommissioning Plan.
- 11. p. 6-12 Section 6.7.1 The listing of SAFSTOR costs is confusing and perhaps too of Decommissioning a Reference Boiling Water Reactor Power Station" indicates that for a large commercial BWR, preparation for safe storage would cost approximately \$21.3 million in 1978 dollars with continuing care during the SAFSTOR period costing \$75,000 per year. NUREG/CR-0672, Addendum 3, which will update the 1978

costs to 1986 dollars will be available in early July 1988. Allowing for La Crosse's small size, the preparation-for-safe-storage costs appear low although not unreasonable. Given that spent fuel will be stored on-site during the SAFSTOR period, it would be expected that annual costs during the SAFSTOR period would be considerably higher than indicated in NUREG/CR-0672. With information provided in the plan however, there is no way to determine how reasonable the annual cost figures are. It would be helpful to have a more detailed breakdown of costs, particularly of pase year costs, as well as explicitly stating the escalation factor for the annual costs.

- 12. p. 6-13 In the paragraph addressing the 5 year updates of Section 6.7.2 decommissioning cost estimates, it would be appropriate to have a statement to the effect that the Board of Governors of Dairyland Power Cooperative agrees to increase Dairyland's decommissioning fund contribution by the amount indicated by the cost study update.
- 13. p. 7-3 Section 7.3.2 Paragraph 7.3.2 discusses removal of unused equipment during SAFSTOR after surveying and documenting that the equipment contains no detectable radioactive material (less than Lower Level of Detection, (LLD)). Since the LLD depends upon the surveying instrument used and the surveying method, the instruments and methods should be described.
- 14. p. 7-5 Indicate the range of the nobel gas detectors in the Section 7.4.3 stack effluent and the gamma monitors in the liquid waste line.
- 15. p. 8-2 Provide resumes of the principal decommissioning and Section 8.2.2 decontamination staff.
- 16. p. 8-4 Section 8.3.1 In accordance with Section 12.5, NUREG-0800, confirm bioassay during the SAFSTOR period will conform to the recommendations of Regulatory Guide 8.26, "Application of Bioassay for Fission and Activation Products", or submit equivalent bioassay criteria.
- 17. p. 8-9 Section 8.6 An estimate of the solid waste to be generated during the SAFSTOR period should be provided so that we can assess the waste management impacts. This estimate should include breakdowns by waste stream (dry active waste, cartridge filters, filter sludge, bead resins, powered resins, activated metals, specific decontamination solutions, etc.) and waste class (A,B,C and Greater-Than-Class-C). The projected volumes and activities by nuclide should be provided for each waste stream and

waste class. These SAFSTOR projections should be compared with operating mode waste generation data. Any changes to the process control program, waste classification program, the quality control program required under 10 CFR 20.311 and the transportation packaging program to reflect new waste streams or SAFSTOR modifications should be identified and information provided for our review.

Are you contemplating spent fuel pin consolidation onsite prior to shipment to the Federal High Level Waste Repository? If so, provide estimates of the expected occupational radiation exposures involved, of the volume of low level waste generated, and of the contribution of this activity to gaseous and liquid radioactivity releases to the environment.

for effl. . from the refueling building ventilation exhaust, liquid waste storage tankage vent exhaust, not machine show vent exhaust, radwaste treatment building ventilation exhaust, the high-level solid radioactive waste storage vaults, the low-level waste storage building, the low-level waste handling building, and any other pathway for the release of radioactive materials.

In reference to onsite storage of combustible fuel, identify the fuel, its location, method of storage. method of resupply, and the maximum quantity stored at any time.

- Technical Specifications Β.
 - A local area map defining the unrestricted areas used 21. p. 1-1 for offsite dose calculations for gaseous and liquid Section 1.1 effluents should be included in TS.

In addition, a site map clearly defining the restricted area pursuant to 10 CFR 20.3(a)(14) should be included.

- what activities, such as decontamination and/or removal 22. p. 1-1 of structures, systems and components are permitted by Section 1.2 the description titled "Principal Activities"? Reference to Regulatory Guide (R.G.) 1.86 may be used.
- Under Effluent Release Boundary definition, reference 23. p 2-2 is made to Figure 4/5.7. On p. 4-62 Figure 1 is the Section 2 site map including effluent release boundary. Since there is no Figure 4/5.7, should Figure 1 be renumbered Figure 4/5.7?

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- 24. p. 4-1 A cover can be installed over the FESW to preclude Section 4.1.1 droppage of objects into the pool and to provide a contamination control barrier. Does LACBWR presently have a cover or is one planned to be installed for SAFSTOR? This cover should be described in SAFSTOR Decommissioning Plan, if applicable.
- 25. p. 4-1 Section 4.1.1.2 The depth of water shielding over a fuel assembly while it is being transferred to a spent fuel rack is less than 10 feet, and the dose rate 3 feet above the FESW water may be greater than 5 mR/hr above ambient radiation levels. Please submit a proposed Technical Specification which states the minimum depth of water shielding over the fuel assembly as it is being transferred, and the measures that will be taken to assure that this minimum depth will not be degraded.
- 26. p. 4-3. An action statement to require use of the cleanup Section 4.1.3 system above the limiting value should be provided. If the activity cannot be reduced to less than the limit prior to the next required sample, a 30 day report to NRC should be made. If the peak activity for any measurement exceeds a value indicative of 10% cladding degradation under static conditions an immediate report to NRC should be required.
- 27. p. 4-5. Section 4/5.1 indicates that the spent fuel storage Section 4/5.1 racks contain a boron poison slab between each storage location to ensure K eff 0.95. A description of these spent fuel storage racks with the poison slabs should appear to be in the SAFSTOR Decommissioning Plan.
- 28. p. 4-5 A specific minimum water coverage limit should be stated Section 4/5.³ in the TS.
- 29. p. 4-36 Section 4/5.6 Revise this section to show the design features of the Include the offsite and onsite environmental monitoring stations.
- 30. p. 4-38 Section 4.6.3 Reporting requirements should be added for sources that exceed the removable contamination limit. The following is suggested: "A report shall be prepared and submitted to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region III within 30 days of the date the leak test result (greater than 0.005 microcuries) is known. The report shall specify the source involved, the test results, and corrective action taken. Records of leak test results shall be kept in units of microcuries."

31. p. 4-56 Offsite dosimeters should have their location documented Table 4.8.1-1 on a map as part of the TS.

Offsite water sampling should be specified (location and radionuclide). The sampling should be in a downstream location with respect to surface water and groundwater.

Onsite sampling should be described as to radionuclides sampled and the location.

- 32. p. 6-3 Section 6.4 The "Certified Fuel Handler" training program should be reviewed and approved by the NRC. The TS should only require that to be certified, a worker successfully complete the program.
- 33. p. 6-3 TS should include training on 10 CFR Parts 19, 20,
 Section 6.4 61 and 71 as a minimum. A retaining frequency should be specified.
- 34. p. 6-3 Section 6.5.1 Section 6.5.1 Dervisors, Engineers, Shift Supervisors and management personnel. We consider the membership should be fixed and considered in conjunction with the quorum requirements such that the quorum is a majority of the committee members.
- 35. p. 6-4 Section 6.5.1.6 We suggest expanding the Operations Review Committee responsibilities to include review of the waste management quality control program required under 10 CFR Part 20.311, and the transportation packaging program.
- 36. p. 6-5 We suggest adding waste management as a review function Section of the Safety Review Committee. 6.5.2.1
- 37. p. 6-6 Section 6.5.2.2 The mer ership of the SRC includes the position of Direct of External Relations. Since this position does not show on the Decommissioning Plan, we cannot conclude how that position contributes to the described functions of the SRC. Please provide the basis for including the individual filling this position on the SRC.

- 38. p. 6-7 The licensee has reduced the frequency of all audits section
 6.5.7.8 Assurance, the Fire Protection Program, and Off-site Dose Calculation Manual and the Process Control Program. Please provide a basis for lengthening the period between audits.
- 39. p. 6-8 Section 6.6.1 The Procedure list should include calibration of instruments, effluent releases, transportation and emergency plan implementing procedures.

C. Supplement to Environmental Report

- 40. p. 4 Section 5.2 Provide an estimate of the number of employees required for the SAFSTOR decommissioning time period. Provide a breakdown of the employees required by permanent and contractor workers. If this number is not expected to be relatively stable, give estimate of changes anticipated.
- 41. p. 8 In Section 7.2, you describe the LACBWR radwaste Section 7.2 system.
 - (a) Since LACBWR circulating water will not be available for liquid radwaste dilution prior to discharge, state how you intend to provide adequate dilution of low level liquid radwaste to meet the maximum permissible concentration levels of 10 CFR Part 20 prior to discharge into the Mississippi River.
 - (b) State how you intend to process liquid radwaste generated from the operation of backwashable filters. These wet wastes (filter sludges) are not described in Section 8 of the Decommissioning Plan as a type of wet waste to be solified or dewatered.
 - (c) You identify decontamination liquids as potential sources of liquid wastes to be processed during SAFSTOR period. Describe the type and expected major chemical composition and process method to be used.
- 42. p. 14 Section 7.3 You stated that after LACBWR was permanently shut down in April, 1986, marked changes in the magnitude and composition of radioactive gaseous effluents were observed.
 - (a) Describe composition and quantities of radioactive gaseous effluent expected during the SAFSTOR period of decommissioning.

-7-

- (b) Describe your plan to recalibrate LACBWR process and effluent radiation monitors in accordance with the energy levels of the radionuclides expected in liquid and gaseous effluents during the SAFSTOR period.
- The stated volumes and activities appear to be low 43. p. 17 Section 7.4 considering the statements in the Decommissioning Plan that some decontamination and dismantlement may take place during the SAFSTOR period. In addition, the Decommissioning Plan also states that some activated metals may be shipped for disposal. If so, the activities in Table 7-9 may be substantially understated.

The bases for the values presented in Table 7-9 should also be discussed.

- Section 7.4 describes solid radwaste processing and 44. p. 17 Section 7.4 shipments.
 - (a) Provide the LACBWR Process Control Program to be used during the SAFSTOR period including (1) waste classification methods in accordance with 10 CFR 61.55 and (2) waste characteristics in accordance with 10 CFR 61.56.
 - (b) Describe the projected low level radioactive waste shipments from LACBWR during SAFSTOR in terms of type of waste (solidified or dewatered spent resin, dry radioactive waste, solidified filter sludges, solidified decontamination waste, etc.) and its radioactivity content.
- Evaluate potential accidental release of the FESW 45. p. 25 cooling water and of liquids from the most critical Section 9.1 radioactive waste storage tank to the groundwater and surface water.