November 22, 1982

Docket No. 50-409
LS05-82-11-068

Mr. Frank Linder
General Manager
Dairyland Power Cooperative
2615 East Avenue South
LaCrosse, Wisconsin 54601

Dear Mr. Linder:

SUBJECT: SEP TOPIC III-1, CLASSIFICATION OF STRUCTURES, SYSTEMS AND COMPONENTS AND VII-3, SYSTEMS REQUIRED FOR SAFE SHUTDOWN LACROSSE BOILING WATER REACTOR

Enclosure 1 is the staff's draft safety evaluation report (SER) on the electrical aspects of SEP Topics III-1 and VII-3.

Enclosure 2 is our contractor's technical evaluation of your plant. This technical evaluation has been revised to reflect the comments in a letter from F. Linder to the Director of Nuclear Reactor Regulation dated August 26, 1982. Enclosure 2 is the basis for Enclosure 1.

The staff continues to recommend that an additional electrical source be provided so that safe shutdown operations can be conducted from the control room in the event of a failure of an instrument bus. We also recommend a second shutdown system level controller be added for the same reason.

SEO4
DSU use(38)
ADD:
G. Staley

The need to actually implement these changes will be determined during the integrated plant safety assessment. This topic assessment may be revised in the future if your facility design is changed or if NRC criteria relating to these topics are modified before the integrated assessment is completed.

Sincerely,

Dennis M. Crutchfield, Chief
Operating Reactors Branch No. 5
Division of Licensing

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P PDR

Enclosures:
As stated

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11/22/82

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SURNAME							
DATE			11/10/82	11/10/82	11/10/82	11/15/82	11/17/82

NRC FORM 318 (10-80) NRCM 0240 OFFICIAL RECORD COPY USGPO: 1981—335-960

Mr. Frank Linder

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SYSTEMATIC EVALUATION PROGRAM

TOPICS III-1 AND VII-3

LACROSSE BOILING WATER REACTOR

TOPIC: III-1, Classification of Structures, Systems and Components
VII-3, Systems Required for Safe Shutdown

I. INTRODUCTION

The systems aspects of the review of Systems Required for Safe Shutdown was conducted as part of Topic V-10.B (RHR Reliability). This safety evaluation is limited to the electrical instrumentation and control systems identified as being required for safe shutdown condition of the plant, including the capability for prompt hot shutdown of the reactor from outside the control room were reviewed. Included also, was a review of the design capability and method of bringing the plant from a high pressure condition to low pressure cooling assuming the use of only safety grade equipment. The objectives of the review were to assure:

A. The design adequacy of the safe shutdown system to (1) initiate automatically the operation of appropriate systems, including the reactivity control systems, such that specified acceptable fuel design limits are not exceeded as a result of anticipated operational occurrences or postulated accidents and (2) initiate the operation of systems and components required to bring the plant to a safe shutdown.

B. That the required systems and equipment, including necessary instrumentation and controls to maintain the unit in a safe condition during hot shutdown, are located at appropriate places outside the control room and have a potential capability for subsequent cold shutdown of the reactor through the use of suitable procedures.

C. That only safety grade equipment is required to bring the reactor coolant system from a high pressure condition to a low pressure cooling condition.

In reviewing the SDCS and systems required for safe shutdown, the major electrical components and systems required for the protection of public health and safety were identified.

II. REVIEW CRITERIA

The review criteria are presented in Section 2 of EG&G Report EGG-EA-6099, "Electrical, Instrumentation, and Control Features of Systems Required for Safe Shutdown."

III. RELATED SAFETY TOPICS AND INTERFACES

Review areas outside the scope of this topic and safety topics that are dependent on the present topic information for completion are identified in Section 3 of EG&G Report EGG-EA-6099.

IV. REVIEW GUIDELINES

The review guidelines are presented in Section 4 of EG&G Report EGG-EA-6099.

V. EVALUATION

Section 7 of EG&G Report EGG-EA-6099 lists the major electrical components and systems that are required at LaCrosse to protect the public health and safety.

As noted in EG&G Report EGG-EA-6099, the systems required to take LaCrosse from hot shutdown to cold shutdown, assuming only offsite power is available or only onsite power is available and a single failure, are capable of initiation to bring the plant to safe shutdown and are in compliance with current licensing criteria and the safety objectives of SEP Topic VII-3, except that redundant instrumentation is powered from one Class IE source. In addition, there is only one SDCS level control system.

The licensee has developed procedures that have been used for safe shutdown from outside the control room. The staff's contractor has stated that operating experience with the limited operator action outside of the control room justifies this design. However, the staff does not consider it to be prudent to enter the reactor containment after a reactor trip and a major electrical system failure in order to shutdown the plant.

VI. CONCLUSIONS

LaCrosse satisfies all of the requirements for Safe Shutdown except for a lack of adequate electrical supply. An additional set of instruments and valves (from an independent Class IE power source) may be required for the Shutdown Condenser System level control. The need to implement these or other modifications to resolve these differences will be evaluated as part of the integrated assessment.