

February 6, 1981

In reply, please
refer to LAC-7361

DOCKET NO. 50-409

U. S. Nuclear Regulatory Commission
ATTN: Mr. Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation
Division of Operating Reactors
Washington, D. C. 20555

SUBJECT: DAIRYLAND POWER COOPERATIVE
LA CROSSE BOILING WATER REACTOR (LACBWR)
PROVISIONAL OPERATING LICENSE NO. DPR-45
FIRE PROTECTION MODIFICATIONS

References: (1) NRC Letter, Eisenhut to All Power Reactor Licensees with Plants Licensed Prior to January 1, 1979, dated November 24, 1980.
(2) DPC Letter, Linder to Eisenhut, LAC-7203, dated November 3, 1980.
(3) DPC Letter, Linder to Eisenhut, LAC-6774, dated February 6, 1980.
(4) Amendment No. 17 to License No. DPR-45, forwarded by NRC Letter, Ziemann to Linder, dated July 27, 1979.

Dear Mr. Eisenhut:

Reference 1 stated that Paragraph 50.48(d) specifies a new schedule for the completion of fire protection modifications that have been previously approved by the NRC staff. Previously approved fire protection modifications to the La Crosse Boiling Water Reactor must therefore be completed by February 17, 1981, the effective date of 10CFR50.48. We have reviewed the LACBWR Fire Protection Safety Evaluation Report, Reference 4, and subsequent correspondence to insure all fire protection modifications accepted by the NRC have been completed and reported to the NRC. A status report of all previously approved modifications not yet reported complete to the NRC is included in Enclosure 1.

Mr. Darrell G. Eisenhut, Director
Division of Licensing

LAC-7361
February 6, 1981

If there are any questions concerning this submittal, please let us know.

Very truly yours,

DAIRYLAND POWER COOPERATIVE



Frank Linder, General Manager

FL:FAD:af

cc: J. G. Keppler, Reg. Dir., NRC-DRO III
NRC Resident Inspectors

3.1.1 Exterior Hose Houses

- (1) Two additional exterior hose houses will be provided on the yard fire loop, one accessible to the "B" diesel generator area and one accessible to the northwest entrance to the turbine building. Each exterior hose house will include the following equipment:
- (a) sufficient lengths of 2½" hose to reach from the hydrant location to the building entrance,
 - (b) 200' - 1½" hose,
 - (c) 2 - 1½" fog nozzles with ball type shutoff valves,
 - (d) 2 - 2½" gate valves,
 - (e) 1 - 2½" x 1½" x 1½" gated vye,
 - (f) 1 - universal type hydrant wrench,
 - (g) 2 - 2½" hose spanners, universal type,
 - (h) 2 - 1½" hose spanners, universal type,
 - (i) 2 - 1½" coupling gaskets, and
 - (j) 2 - 2½" coupling gaskets.

DPC RESPONSE:

Additional 1½" fog nozzles with ball type shutoff valves were placed in exterior hose houses in January 1981. All exterior hose houses now include all of the required equipment.

- (3) Administrative control procedures will be established to provide a semiannual inspection (Fall and Spring) of exterior hydrants to ensure the barrel is dry and that the threads are properly lubricated.

DPC RESPONSE:

Implementing procedures for the Fire Protection Plan will be established by February 17, 1981, to provide semiannual inspections of exterior hydrants to ensure the barrel is dry and that the threads are properly lubricated. Existing procedures require a semiannual flush of all fire hydrants and a weekly inspection of fire fighting equipment in general.

- (5) *Administrative control procedures will be established to provide annual hydrostatic testing of hose stored in exterior hydrant hose houses.*

DPC RESPONSE:

A hydrostatic test procedure has been written and will be approved as an implementing procedure for the Fire Protection Plan by February 17, 1981, to require annual hydrostatic testing of hose stored in exterior hose houses.

3.1.4 Fixed Suppression Systems

- (3) *An automatic fire suppression system will be provided to protect the "A" diesel-generator room.*

DPC RESPONSE:

Installation of a sprinkler system lined up for manual actuation for the 1A Diesel Generator Room was completed in December 1980.

DPC determined that the sprinkler system should be operated in a manual mode because there is a remote possibility that automatic sprinklers in the 1A Diesel Generator Room could be inadvertently actuated with the diesel generator in operation during an emergency. Water spray on diesel generator controls and into the air intake may stop the diesel generator.

In addition, automatic initiation of sprinklers due to an actual fire when the diesel generator is required to operate would be undesirable for the reasons given in the Sargent and Lundy letter dated September 16, 1975, which is submitted as Attachment A.

It should be noted that the 1B Diesel Generator provides redundancy for the 1A Diesel Generator. The 1B Diesel Generator is located in a separate fire area and would supply power to required safety related equipment during an accident in the event the 1A Diesel Generator were lost.

A sprinkler system for the 1A Diesel Generator Room was installed in November and December 1980. Based on previous fire protection modifications of the 1A Diesel Generator Room, the fire protection characteristics of the 1A Diesel Generator Room, the very short response time for manual fire fighting due to the small size of the plant and the location of the 1A Diesel Generator Room, and the recently installed manually actuated sprinkler system, we believe that adequate fire protection has been provided and that any additional benefit gained by lining up the existing 1A Diesel Generator Room sprinklers for automatic operation is outweighed by the potential for unnecessary loss of the 1A Diesel Generator due to automatic actuation of the sprinklers during a lengthy run of the 1A Diesel Generator in an accident situation. There is a fire detector in the 1A Diesel Generator Room which alarms in the Control Room and the 1A Diesel Generator Room wall presently has a 2.3 hour fire rating. An emergency shutoff switch for the fuel oil transfer

pump has been installed to secure oil flow into the 1A Diesel Generator Room and a curb has been installed to prevent leaking oil from the 100-gallon Day Tank from flowing into the Machine Shop. These features insure that a manually actuated sprinkler system can be actuated before a fire could spread to adjoining fire zones.

There has been an apparent inconsistency in the Commission's guidance on this fire protection feature since we had been advised at one time to provide fire suppression features in the 1A Diesel Room to protect the adjoining fire zone and later advised to provide fire suppression for the diesel to "protect" the diesel generator machinery.

There is an extremely low probability of a fire occurring in the relatively small, unoccupied 1A Diesel Generator room. Assuming that the fire risk increases when the diesel generator is in operation, it would be illogical to automatically inject water into the room to cause the diesel generator to cease operation when it was needed. Furthermore, the 1A diesel generator is only 250 KW and is adequately backed up by a 450 KW diesel generator at another location. It is our contention that a fire at the 1A Diesel Generator does not impair the ability to shut down the reactor and to establish a cooldown condition. It should be noted that due to the relatively small size of the 1A Diesel Generator room and its ventilation configuration, a slight concentration of diesel exhaust actuates the smoke alarm for that room shortly after the diesel commences operation. This alarm is responded to promptly by an operator from the Control Room who verifies that a fire is non-existent. In the history of the plant, there has never been a fire in the 1A Diesel Generator room nor a condition which would have contributed toward the creation of an unprotected fire hazard. Therefore an exemption from the requirement for automatic actuation of sprinklers in this area is requested.

- (4) *A fixed dry pipe sprinkler system capable of quick connection to a manual hose will be provided at the exterior side of the cable penetration of containment.*

DPC RESPONSE:

Installation of a fixed dry pipe sprinkler system for the electrical penetration area was completed in December, 1980.

- (5) *An automatic water fire suppression system will be provided to protect against a fire at outside transformers.*

DPC RESPONSE:

A manually actuated deluge system for the main and auxiliary transformers was installed during LACBWR's recent refueling outage. Installation of the sprinklers was completed in January, 1981. An extension in accordance with 10CFR50.48(c)(2) as specified, is requested to convert manual actuation to automatic.

3.1.14 Neutron Shields

Polyethylene neutron shield blocks around the control rod drive system below the reactor will be replaced with those of noncombustible material.

DPC RESPONSE:

Polyethylene neutron shield blocks were removed during LACBWR's recent refueling outage. Boraflex shielding described in Reference 2 was installed in December 1980.

3.1.25 Gas Suppression System Actuation

The licensee will (1) provide the actuation power for the carbon dioxide system that protects the "B" diesel room from the essential service bus which derives the onsite backup power from the "A" diesel generator, and (2) modify the emergency manual release of the carbon dioxide system to conform to the provisions of NFPA 12-1977, Section 1-8.3.5.

DPC RESPONSE:

- (1) As reported in Reference 2, actuation power for the carbon dioxide system that protects the "B" diesel room was modified to receive power from the essential service bus which derives onsite backup power from the 1A Diesel Generator.
- (2) The emergency manual release of the carbon dioxide system was modified in December 1980 to conform to the provisions of NFPA 12-1977, Section 1-8.3.5.

The as-built modification is similar to the design forwarded by Reference 3 and operates on the same principle.

3.1.26 Drains and Curbs

Curbs will be added or upgraded in the following areas to contain the entire content of oil in each area plus additional 10% capacity for fire water:

- (1) The turbine oil reservoir
- (2) "A" diesel room
- (3) "B" diesel room

The licensee will also provide an opening at the floor level of the oil storage room which will drain a possible oil accumulation in the room toward the yard area.

DPC RESPONSE:

The curb around the turbine oil reservoir was upgraded to contain the entire oil content plus an additional 10% capacity in November 1980. Curbs in the 1A Diesel Generator Room and the 1B Diesel Generator Room were added or upgraded to contain the entire content of oil plus an additional 10% capacity prior to November 1980, as reported in Reference 2.

An opening at the floor level of the oil storage room will be provided by February 17, 1981.

3.1.28 Cable Penetration Seal

The licensee will modify the existing electrical cable penetration seal to a design with established adequate fire resistance.

DPC RESPONSE:

The two remaining cable penetration seals which are inaccessible during plant operation were upgraded in January 1981 during the recent refueling outage. All cable penetration seals have now been upgraded to the three-hour design described in Reference 2.

September 16, 1975
Project No. 4503-11

Subject:
Dairyland Power Cooperative
LACBWR Station

Diesel Generator Room Fire Protection

Mr. W. R. Manion
Engineer
Factory Mutual Engineering
3323 W. Mayfair Road
Milwaukee, Wisconsin 53222

Dear Mr. Manion:

This is to reply to your request of Sept. 8, 1975 for us to consider adding an automatic sprinkler system to the diesel generator room at LACBWR.

The diesel generator set being added at LACBWR has the sole purpose of mitigating the consequences to the public in the event of a nuclear accident. The addition is being purchased and installed to the requirements of USNRC Regulatory Guides 1.6 and 1.9. In the event of an emergency, any considerations other than the nuclear safety aspect are secondary and cannot be allowed to interfere with the design intent of any safety equipment.. In fact, it is required that the diesel generator be run to destruction rather than allow it to be shut down during an emergency. Since the generator and all controls can not be designed to withstand a water deluge, and since the failure of an automatic sprinkler system would interfere with the operation of this unit, it cannot be allowed.

It is pointed out that there is a CO₂ system in the diesel generator room and that there is a fire hose reel with a 50 foot hose in the adjacent room for fire protection. This is the nuclear industry and Nuclear Regulatory Commission accepted practice for nuclear power plant emergency diesel generator sets.

(C) (O) P Y

Mr. W. R. Manion
Dairyland Power Cooperative

September 16, 1975
Page 2

Please do not hesitate to contact us if you have any further questions or comments.

Yours very truly,

E. H. Stanton
Mechanical Engineer

EHS/1k
In duplicate
Copies:
T. A. Brewer
L. P. Dolder
N. K. Agnihotri

(COPY)