



LAWRENCE LIVERMORE LABORATORY

September 8, 1980
RV 80-09-01

Mr. Paul Shemanski, Operating Reactors Assessment Branch
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Paul:

SUBJECT: LA CROSS BOILING WATER REACTOR - DOCKET NO. 50-409
DIESEL GENERATOR STATUS ANNUNCIATORS (TAC 07897)

- REFERENCES:
1. NRC letter dated March 29, 1977 to Dairyland Power Cooperative
 2. Dairyland Power Cooperative letter dated July 22, 1977 to NRC
 3. LLNL Report, UCID-18145, "Status of Evaluation and Modifications of Diesel Generator Status Annunciator Systems at Various Nuclear Power Plants" - October 1979

In their letter [Ref. 1], the NRC requested that the licensee (Dairyland Power Cooperative) provide information regarding the status annunciator system for the diesel generators at their facility. This request for information was the result of reports from licensees on incidents where diesel generators failed to respond to automatic start signals because control switches or lockout and shutdown relays were left in shutdown condition by operators unaware of their status. The Principal reasons for this lack of awareness were:

1. The sharing of annunciator systems for both disabling and non-disabling alarm conditions;
2. wording on annunciator windows for disabling conditions which did not specifically say that the diesel generator emergency start was blocked; and
3. disabling conditions which were not annunciated in the control room.

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The licensee responded by letter [Ref. 2], describing the diesel generator annunciator system at the La Cross Boiling Water Reactor. A review of the licensee's response has identified several areas of concern. These are:


1. Annunciators are shared for both disabling and non-disabling alarm conditions.
2. Diesel Generator 1A "starting battery voltage low" is not annunciated.
3. Diesel Generator 1A lockout relay 86 is not annunciated.
4. The response did not indicate if it is possible to clear shared annunciators before abnormal conditions have been corrected.

The licensee in its response indicated that during the outage at the time of the response, that "low battery voltage" for Diesel Generator 1A was added to an annunciator in the control room. The annunciator was not identified. In addition, the licensee proposed a modification to add Diesel Generator 1B "control power" indicating lamp in the Control room.

In order to provide the operator with accurate, complete, and timely information pertinent to the status of the diesel generators, as required by IEEE Std. 279-1971, "Criteria of Protection Systems for Nuclear Power Generating Stations," the following corrective actions are required of the licensee.

1. Disabling and non-disabling conditions for each diesel generator should be separated and annunciated using separate annunciator systems.
2. All disabling conditions should be annunciated and alarmed in the control room.
3. The wording on the annunciator for disabling conditions should specifically state that the diesel generator is unavailable for automatic emergency start.
4. Annunciators and alarms shall not be able to be cleared until all abnormal conditons have been corrected.

It is recommended that the licensee be informed of the above requirements and that corrective action be implemented.


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