CP&L

Carolina Power & Light Company

May 18, 1977

Regulatory File Cy.

FILE: NG-3514 (R) SERIAL: NG-77-597

Director of Nuclear Reactor Regulation
Attn: Mr. Robert W. Reid, Chief
Operating Reactors Branch No. 4
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

H. B. ROBINSON STEAM ELECTRIC PLANT UNIT NO. 2
DOCKET 50-261
FACILITY OPERATING LICENSE NO. DPR-23
REVIEW OF EMERGENCY DIESEL GENERATOR
CONTROL AND ALARM CIRCUITRY

Dear Mr. Reid:

Your letter of March 28, 1977 requested that we review our emergency diesel generator (DG) control and alarm circuitry. The following responses are provided and are lettered the same as your requests for information.

A. During normal operation of the DG, control is in the "remote" mode to allow the DG to respond to an automatic emergency start signal. If control is not in the "remote" mode this condition is annunciated in the control room on a common Emergency Diesel Trouble alarm for that diesel. While in the remote control mode, emergency DG starting can be overridden by the following means:

(1) Energization of the shutdown relay (SDR). This condition is annunciated in the control room at two locations; they are:

(a) Emergency Diesel Trouble alarm
(b) Diesel Coolant Temperature Hi/Lo alarm

The shutdown relay cannot be energized until either the DG fails to start or it is running at a minimum of 810 RPM. If the DG fails to start automatically, the SDR must be locally reset to initiate another starting action. Continuous starting action is limited in time to prevent total loss of starting air pressure without corrective action. If the DG is running, shutdown is prevented by the DG "Trips Defeat" key switch. This switch was installed as

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a modification to the DG control circuitry to comply with the plant's Technical Specification which requires bypass of the following DG protective trips:

(a) Low Lube Oil Pressure
(b) Low Coolant Pressure
(c) High Coolant Temperature
(d) High Crankcase Pressure
(e) Start failure trip of fuel racks

If the "Trips Defeat" switch is out of the normal position, this condition is annuniciated in the control room on a common Emergency Diesel Trouble alarm for that diesel. Also, when the "Trips Defeat" switch is not in its normal position, energization of the SDR can initiate energization of the Governor Shutdown Solenoid (GSS) which will secure fuel oil supply to the DG to prevent it from running (or shut it down).

(2) The local Start/Auto/Stop switch and the remote Start/Stop switch. These switches when placed in the stop position will prevent automatic start of the DG by energization of the GSS, which prevents fuel oil being supplied to the DG. Deliberate action is required to shutdown the DG by operating these switches. This action would be taken either in an emergency or routine DG shutdown.

(3) Use of the lockout relay. This relay is actuated by a detrimental condition on the DG electrical output, and it in turn initiates energization of the GSS which shuts down the DG as described above. Actuation of the lockout relay is annunciated in the control room by the Emergency Generator A/B Auto Trip Alarm.

(4) The local Stop Push Button. This button will initiate energization of the GSS to shut down the DG. Releasing the button will allow the DG to again be automatically started. Deliberate action is required to shut down the DG. This push button would normally be used as an emergency shutdown device for the DG.

(5) The local manual Trip Push Button for the Fuel Rack. This push button mechanically secures fuel supply to the DG and mechanically reset action is required. Deliberate action is required to initiate this trip, and it would be utilized only in an emergency situation requiring shutdown of the DG.

B. Annunciation of the above listed conditions that can override automatic starting of the DG are as follows and correspond respectively to those listed above:

(1) Emergency Diesel Trouble alarm (for affected diesel)

(3) Engine Overspeed
(4) Lube Oil Low Pressure
(5) Diesel in Local Control
(6) Start Failure
(7) Crankcase High Pressure
(8) Expansion Tank Low Level
(9) Coolant Low Pressure
(10) Alarms Cut Out With Key Switch

D. Conditions that render the DG incapable of responding to an automatic emergency starting signal which are not alarmed in the control room are the same as those listed in response B above with the exception of items B(1) and B(3).

E. No modifications are proposed as a result of this evaluation because the conditions not annunciated in the control room, as in response D above, require deliberate action by the operator to initiate. Such deliberate action would negate the requirement for annunciation. In addition there is no ambiguity associated with the meaning of the Emergency Diesel Trouble alarm. This alarm requires investigation locally to determine the specific cause for the alarm. At that time corrective action can be taken.

Yours very truly,

E. E. Utley
Senior Vice President
Power Supply

WGG/CSB/kr

FORM 195 U.S. NUCLEAR REGULATORY COMMISSION

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DOCKET NUMBER	50-261
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Mr. Robert W. Reid	Carolina Power & Light Company Raleigh, North Carolina E. E. Utley	5/18/77
		DATE RECEIVED 5/23/77

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DESCRIPTION

(2-P)

ENCLOSURE

Consists of response to request for information concerning the history of H. B. Robinson steam generator tube integrity.

(3-P)

ACKNOWLEDGED

DO NOT REMOVE

PLANT NAME:

H. B. Robinson Unit No. 2

RJL

40 encl.

FOR ACTION/INFORMATION

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