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October 20, 1978

BECo. Ltr. #78-181

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Operating Reactors Branch #3
Division of Operating Reactors
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

License No. DPR-35
Docket No. 50-293

Diesel Generator Control and Alarm Circuitry

Dear Sir:

This letter is in response to your letter dated September 15, 1978, requesting that Boston Edison Company propose corrective measures as recommended by the NRC Staff, relating to the alarm and control circuitry for the emergency diesel generators. We consider the following responses to the criteria presented in the enclosure to your letter acceptable for the stated conditions:

Criteria 1 - Condition

D/G Disabling Condition not Clearly Annunciated in Control Room:

Valves or switches positioned for routine periodic maintenance which render the D/G inoperable.

Suggested Corrective Measure

Provide a separate alarm for each valve/switch or a single shared alarm (with reflash capability) for all affected devices with wording clearly indicating that the D/G is incapable of an automatic start.

Response to Condition (1)

The shut-off valves for the air starting systems of the diesel generators could render the diesels inoperable if left in the closed position following maintenance. The shut-off valves are located between the pressure reducing valves and solenoid operated air start valves of the diesels.

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The shut-off valves are tagged and closed before maintenance on the diesel generators, and are returned to the open position at the conclusion of the work. All maintenance or electrical work that is performed on the diesels which necessitates closing of the shut-off valves, requires that Station Procedure 8.9.1, "Testing of Diesel Generators", be followed prior to returning the unit to service. This Procedure calls for a functional test of the diesel generator to ensure its operability. Further, Procedure Oper. 27 "Diesel Generator Daily Surveillance" provides for a daily surveillance check to ensure required components, including the shut-off valves, are properly positioned and operable.

It is therefore our position that functionally testing the diesel generator after maintenance and by daily checking the position of the shut-off valves provides adequate assurance that the diesel generator will not be left in an inoperable mode due to the incorrect positioning of the shut-off valves. No modification to alarm these valves is necessary.

Criteria 2 - Request for Additional Information

- a. Provide confirmation that all shared annunciators for the diesel generator disabling conditions cannot be cleared in the control room until all the abnormal (disabling) conditions are corrected. Provide description of any exceptions and the corrective measures to be initiated.

Response to Request 2(a)

There are two modes of diesel generator operation:

- a) Emergency Mode
- b) Parallel Operation (Test) Mode

During emergency mode, all shared annunciators for diesel generator disabling conditions cannot be cleared in the Control Room until all abnormal (disabling) conditions are corrected.

During the parallel operation mode of the diesel generator, the common annunciator for diesel generator disabling conditions can be cleared in the Control Room after acknowledging the trouble alarm at the local control panels. During the emergency mode of operation, these trouble controls are bypassed and although they will not disable the diesel generators, they are alarmed individually in the local panel and also in the Control Room on a common alarm. Immediate operator action is to locate the trouble after the local trouble annunciators have been acknowledged. We believe that the above design bases are sufficient and we do not propose any modifications.

- b. Provide information sufficient to verify that an alarm is provided which clearly indicates when the diesel generator control switch is not in the automatic position.

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Response to Request 2(b)

The Test/Auto switch for the diesels is located on panel C-3 in the control room. Position indication for this switch is provided on Panel C-3 as well as the local panel. Paralled operation is permitted when the switch is in the "test" position. The switch will normally be in the "Auto" position. Should the diesel be required, i.e. either a loss of offsite power occurs or a loss of coolant accident signal is generated, while the switch is in the "test" position, the control logic automatically bypasses the test function and allows the automatic starting of the diesel. There are no existing alarms which indicate when the diesel control switch is not in the automatic mode. It is our position that due to the described design of our control circuits, an alarm is unnecessary since the "test" position cannot prevent or deter the diesel starting. In addition the position of the switch is routinely checked to assure the correct, or "Auto", position. We believe that this design basis is adequate and we do not propose any modifications.

Should you have any further questions or concerns regarding our position, please contact us.

Very truly yours,

