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October 3, 1967

CONSOLIDATED EDISON COMPANY OF N. Y., INDIAN POINT NO. 3,
QUESTIONS RELATING TO POWER AND CONTROL, DOCKET #50-286

I&PTB:DRL:JVB - RT-180

Please include the following questions among those in preparation for transmittal to the applicant:

1. Evaluate the ability to supply electric power from the incoming power lines to engineered safety features under accident conditions. The evaluation should include, but not be limited to, the effect of sudden trip of the unit, fault on the incoming lines, fault or equipment failure in the Buchanan substation, or fault or equipment failure within the plant. Supply any pertinent statistics showing the ability of the system to withstand the sudden tripping of large units.
2. Discuss the operation of the emergency diesel power supply system under accident conditions with no normal power sources available. Indicate the sequence of equipment that is automatically started during the injection phase (including designation and horsepower of each), and the loads (designation and horsepower) on each diesel for the recirculation phase. Give basis for the rating of the diesel proposed to furnish these loads. Confirm that, after any single fault or failure, including the failure of any one diesel to start, sufficient power is available for engineered safety features. Describe equipment used for the automatic sequence loading and consider a failure in one automatic sequence. Confirm that all equipments, including diesels, fuel, auxiliaries, controls, wiring, etc., have the physical separation required to prevent a single accident (including fire) from disabling more than one diesel power supply.
3. Confirm that a fault on any bus will lock-out all possible sources of power to that bus until the fault is cleared, and that lockouts will be provided for bus ties to prevent any two power sources from being tied together. Confirm that circuit breakers connecting Emergency Generators 1, 2, and 3 to Busses 5A, 2A, 3A and 6A will not close if there is a voltage on the bus from any source that is not synchronized, and that Emergency Generators that are synchronized with power from Station Auxiliary Transformer supply are left connected to that power only as long as necessary for load testing purposes.

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4. Evaluate the ability of the system to supply power to safety loads under accident conditions with a loss of outside power, and with any single fault or failure in the d-c system. Additional information is needed, including diagrams, of the 125V d-c system and the 120V a-c instrument supply system. This information should include assurance that busses, batteries, and inverter sets are physically separated so that a single accident could not take out both sources of supply to controls, instruments, and other important loads.

5. Evaluate the ability of all electrical components required for safety to withstand the accident environment. The evaluation should include identification of the equipment and the expected length of time that each equipment must function. Discuss the design provisions which will enable the motors, valves, wiring, and any other components to function in the accident environment. Describe tests or test data that will demonstrate the ability of the component to function in the stated accident environment.

cc: S. Levine
J. Murphy
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Suppl. ✓
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