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Vice President

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December 23, 1991

Re: Indian Point Unit No. 2
Docket No. 50-247

Document Control Desk
US Nuclear Regulatory Commission
Mail Station P1-137
Washington, DC 20555

SUBJECT: Con Edison Reply to the NRC Safety Evaluation of the IP2 Response to Station Blackout (SBO) Rule (TAC No. M68556)

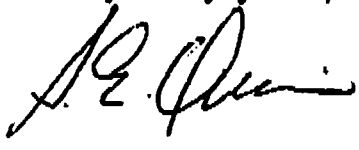
This letter is submitted in reply to NRC's safety evaluation (SE) of our response to the Station Blackout Rule dated November 21, 1991. NRC has stated that our proposed method of dealing with a station blackout (SBO) is acceptable, subject to the receipt of confirmation that the recommendations identified in the SE have been or will be implemented.

Attachment A contains the requested confirmation that the recommendations identified in the SE have been or will be implemented.

Attachment B contains clarifications of certain technical areas. The clarifications do not change any of the conclusions contained in the SE, but are provided for accuracy of the record.

Should you have any questions regarding this matter, please contact Mr. Charles W. Jackson, Manager, Nuclear Safety and Licensing.

Very truly yours,



Attachments

cc: Mr. Thomas T. Martin
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475 Allendale Road
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Mr. Francis J. Williams, Jr., Project Manager
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Attachment A

CONFIRMATION OF RECOMMENDATION IMPLEMENTATION

2.5 Proposed Modification

The licensee has upgraded the EDGs and requalified them at their new design ratings. The endurance and margin test demonstrated the full load carrying capability for an interval not less than 24 hours, 2 hours at 2100kW, 1/2 hour at 2300kW, and the remaining 21 1/2 hours at 1750kW. The licensee has stated that GT-2 currently has limited blackstart capability, and, therefore, proposes to install a blackstart diesel capable of carrying all auxiliary loads for the gas turbine. The blackstart diesel automatically starts and loads when the gas turbine is needed. The modifications will be completed within two years of the notification provided by the NRC staff per 10 CFR 50.63(c)(3).

Recommendation: The licensee should include a full description including the nature and objectives of the required modifications identified above in the documentation supporting the SBO submittal that is to be maintained by the licensee.

RESPONSE:

Since Con Edison's submittal of April 14, 1989, we have re-evaluated the planned installation of the black start diesel for Gas Turbine No. 2 (GT-2). We have determined, based on experience of other similar gas turbines, that the reconnection of the supply for the gas turbine auxiliaries from the load side of the gas turbine output breaker to the generator side of the breaker will be effectively the equivalent of supplying these auxiliaries with an additional emergency diesel generator. GT-2 will now directly feed the 440VAC auxiliaries (a black start diesel will not be installed) that are required to keep it running. This will allow the GT-2 to be started with its battery, and allow the auxiliaries to be fed within the time frame required for continued operation. This new auxiliary supply arrangement will be in place by November 21, 1993. When we have developed a full description including the nature and objectives of this modification we will maintain it in the supporting documentation for the SBO submittal.

2.7 EDG Reliability Program

The licensee's submittal on SBO did not specifically address the commitment to implement an EDG reliability program to conform to the guidance of RG 1.155, Position 1.2. However, during a telephone conversation of June 4, 1990, the licensee has committed to establish a reliability program in accordance with the final resolution of GI B-56. Although the licensee has committed to a reliability program pending resolution of GI B-56, the licensee is required to implement a program that meets the guidance of RG 1.155, Position 1.2.

Recommendation: The licensee should include confirmation in the documentation supporting the SBO submittals that is to be maintained by the licensee that such a program meeting the guidance of RG 1.155, Position 1.2 is in place or will be implemented.

RESPONSE:

We have implemented a reliability program on the Emergency Diesel Generators (EDG) that Con Edison believes satisfies Reg. Guide 1.155, Position 1.2. The SBO will include confirmation of Con Edison's compliance with the Reg. Guide.

Attachment B

CLARIFICATION OF TECHNICAL AREAS

I. Use of Cold Shutdown as a definition of Safe Shutdown for Indian Point 2.

Indian Point Unit No. 2 conforms to the NRC position provided to NUMARC in a letter dated January 3, 1990 that licensees need only justify achieving safe-shutdown for surviving a station blackout. For Indian Point 2, the design basis safe shutdown condition is defined as hot shutdown in the Unit 2 FSAR, see Chapter 14, Appendix A, Section 5.2. As such it is clear that cold shutdown (as referred to in the SE) cannot be construed to be a change in the design basis.

Nevertheless, the information provided to the NRC regulatory staff demonstrates the ability to achieve cold shutdown utilizing natural circulation and one emergency diesel generator. Therefore, the conclusions that were reached in the SE remain fully valid.

II. Emergency Diesel Generator Loading

The NRC's Safety Evaluation concludes that the capability to reach cold shutdown would be achieved by adding the residual heat removal (RHR) Pump load to the hot shutdown loads and since this is within the new short term rating of the emergency diesel generator that therefore it is acceptable. We believe that this is technically incorrect.

The time it will take to achieve cold shutdown from hot shutdown will be longer than the short term rating of the EDG. Neither the EDG nor the switchgear have been verified for operation at the short term rating for extended periods of time. The draft information provided to the NRC described how the plant will be able to achieve cold shutdown with one EDG while remaining within the long term load (below 1750kW continuous rating). This would be accomplished by turning off a motor driven auxiliary feedwater pump and the pressurizer heaters and substituting an RHR pump. Heat removal would be accomplished by the steam generator while the primary side is pressurized. It is impossible to use the RHR system while the plant is pressurized because any attempt to put it into service would overpressurize the system and operating an RHR pump deadheaded for an extended period of time could result in the failure of the pump. The RHR system is put into service when the reactor coolant system is depressurized below 450 psi and the temperature is below 350°F. Under these conditions the ability to remove heat from the steam generator is diminished and RHR is preferred. The conclusions of the SE therefore remain correct in that the ability exists to take the plant to the cold shutdown conditions with one EDG. This does not compromise the EDG, the switchgear or the RHR pump.

III. Quality Assurance

It should be reiterated that the equipment installed at Indian Point Unit 2 needed to cope with a station blackout is covered by one or more Quality Assurance (QA) programs (under either Appendix B or Appendix R.) Subsequent to the June 4, 1990 teleconference which discussed QA requirements for the Alternate AC system, the responsibility for maintenance and reliability of Gas Turbine Units 2 and 3 has been transferred to the Con Edison Gas Turbine group, which has responsibility for about 2000 megawatts of Gas Turbine capability on our system. Their system-wide experience and training in accordance with manufacturers recommendations should enhance the overall reliability and availability of the Gas Turbines. Since the Gas Turbine Units 2 and 3 are not listed in our Appendix B or Appendix R QA programs, this equipment will not be subject to the requirements of 10 CFR 50, Appendix B or R or the guidelines of Reg. Guide 1.155, Appendix A.