



Entergy Nuclear Northeast
Entergy Nuclear Operations, Inc.
Indian Point Energy Center
295 Broadway, Suite 1
P.O. Box 249
Buchanan, NY 10511-0249

January 8, 2002

Re: Indian Point Unit No. 2
Docket No. 50-247
NL 02-002

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Stop 0-P1-17
Washington, DC 20555-0001

SUBJECT: Indian Point Nuclear Generating Unit No. 2 License Amendment Request
(LAR No. 02-002) - Gas Turbine Generator Fuel Oil Storage
Requirements

Pursuant to 10CFR50.90, Entergy Nuclear Operations, Inc. (ENO) hereby requests an amendment to the Indian Point Nuclear Generating Unit No. 2 (IP2) Technical Specifications (TS) Section 3.7.C, "Gas Turbine Generators," and Section 4.6, "Emergency Power System Periodic Tests." The purpose of this License Amendment Request is to change the requirement to maintain a minimum amount of fuel oil stored on site for the operable gas turbine generator from 54,200 gallons to 94,870 gallons based on a new calculation for gas turbine generator fuel oil consumption. The new calculation also ensures that sufficient fuel oil is available to operate the motor-driven auxiliary feedwater pump as a backup to the turbine-driven auxiliary feedwater pump.

Attachment 1 to this letter provides the description and evaluation of the proposed change. The revised TS pages and TS Bases pages are provided in Attachment 2 (strikeout and shadow format).

The requested change has been administratively implemented. ENO requests approval of the proposed change within a year of the date of this submittal with an implementation date within 60 days of approval.

The Station Nuclear Safety Committee (SNSC) and the Nuclear Facilities Safety Committee (NFSC) have reviewed the proposed change. Both committees concur that the proposed change does not involve a significant hazards consideration as defined by 10 CFR 50.92(c).

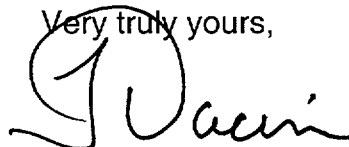
In accordance with 10 CFR 50.91, a copy of this submittal and the associated attachments are being submitted to the designated New York State official.

This letter contains no new commitments.

Pool

Should you or your staff have any questions regarding this submittal, please contact Mr. John F. McCann, Manager, Nuclear Safety and Licensing at (914) 734-5074.

Very truly yours,

A handwritten signature in black ink, appearing to read "Fred Dacimo". The signature is fluid and cursive, with the first letter "F" being particularly large and stylized.

Fred Dacimo
Vice President – Operations
Indian Point 2

Attachments

cc: See page 3

cc:

Mr. Hubert J. Miller
Regional Administrator-Region I
US Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. Patrick D. Milano, Senior Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
US Nuclear Regulatory Commission
Mail Stop O-8-2C
Washington, DC 20555

NRC Senior Resident Inspector
US Nuclear Regulatory Commission
PO Box 38
Buchanan, NY 10511

Mayor, Village of Buchanan
236 Tate Avenue
Buchanan, NY 10511

Mr. Paul Eddy
NYS Department of Public Service
3 Empire Plaza
Albany, NY 12223

Mr. William F. Flynn
NYS ERDA
Corporate Plaza West
286 Washington Ave. Extension
Albany, NY 12223-6399

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
ENTERGY NUCLEAR OPERATIONS, INC.) Docket No. 50-247
Indian Point Nuclear Generating Unit No. 2)

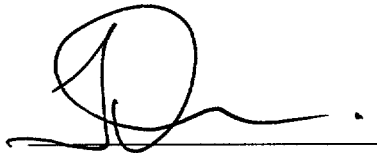
APPLICATION FOR AMENDMENT
TO OPERATING LICENSE

Pursuant to Section 50.90 of the Regulations of the Nuclear Regulatory Commission (NRC), Entergy Nuclear Operations, Inc., as holder of Facility Operating License No. DPR-26, hereby applies for amendment of the Technical Specifications contained in Appendix A of this license.

The specific proposed Technical Specification revision is set forth in Attachment 2. The associated assessment demonstrates that the proposed change does not involve a significant hazards consideration as defined in 10CFR50.92(c).

As required by 10CFR50.91(b)(1), a copy of this Application and our evaluation concluding that the proposed change does not involve a significant hazards consideration has been provided to the designated New York State official.

BY:


Fred Dacimo
Vice President – Operations
Indian Point 2

Subscribed and sworn to
before me this 8th day
January, 2002.

Karen L. Lancaster
Notary Public

KAREN L. LANCASTER
Notary Public, State of New York
No. 60-4863059
Qualified in Westchester County
Term Expires 9/30/05

ATTACHMENT 1 TO NL 02-002

LICENSE AMENDMENT REQUEST

GAS TURBINE GENERATOR FUEL OIL STORAGE REQUIREMENTS

**ENTERGY NUCLEAR OPERATIONS, INC
INDIAN POINT UNIT NO. 2
DOCKET NO. 50-247**

LICENSE AMENDMENT REQUEST

DESCRIPTION OF THE PROPOSED CHANGE

Entergy Nuclear Operations, Inc. (ENO) is requesting a change to the Indian Point Nuclear Generating Unit No. 2 (IP2) Technical Specifications (TS) 3.7.C, "Gas Turbine Generators," to change the requirement to maintain a minimum amount of fuel oil stored on site for the operable gas turbine generator (GT) from 54,200 gallons to 94,870 gallons. Also requested is a change to TS 4.6, "Emergency Power System Periodic Tests," so that the GTs are tested at a minimum load of 2000 kW rather than 750 kW.

REASONS FOR THE CHANGE

The revised minimum test load ensures that the GT has the capability to operate the motor driven Auxiliary Feedwater Pump as a backup to the turbine driven Auxiliary Feedwater Pump with the limiting combination of additional loads required for post-fire safe shutdown. A revised calculation has been performed that more accurately determined the minimum amount of fuel oil required for the Indian Point Station GTs and ensures that there is sufficient fuel to operate the motor driven Auxiliary Feedwater Pump with the limiting combination of additional loads that could be used for post-fire safe shutdown for three days.

EVALUATION OF THE PROPOSED CHANGE

There are three GTs available at the Indian Point station. One (GT-1) is located in the IP2 protected area. The other two (GT-2 and GT-3) are located at the Buchanan substation. Each GT can be aligned to the IP2 and the Indian Point Nuclear Generating Unit No. 3 (IP3) electrical distribution systems to provide additional contingency electrical power. As described in the IP2 UFSAR 8.2.1, the gas turbines can provide an alternate backup power source in case of loss of onsite emergency power and concurrent loss of offsite power as well as required auxiliary power for the alternate safe shutdown systems equipment. One gas turbine is capable of supplying the maximum electrical load for the Indian Point Unit 2 alternate safe shutdown power supply system for at least 3 days.

Current IP2 TS section 3.8.C requires the operability of at least one GT and associated switchgear and breakers at all times. A minimum fuel inventory of 54,200 gallons is also required. As described in the TS Bases, any one of the three GTs is more than adequate to provide an additional contingency of backup electrical power for maintaining the plant in a safe shutdown condition. The specified GT minimum fuel inventory assures that one GT is capable of supplying the maximum electrical load for the Indian Point 2 alternate safe shutdown power supply system for at least three days.

Alternate safe shutdown capability is currently required by 10CFR50 Appendix R, "Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979." As

stated in Ref. 1 and 2, the staff accepted the use of GT-1 as the onsite source of emergency power for post-fire safe shutdown fully compliant with the requirements of 10CFR50 Appendix R para. III.J. GT-2 and GT-3 are backup power sources to GT-1. Each GT has a nominal power rating that is far in excess of the loads required for post-fire safe shutdown.

As stated in Ref. 3, the GTs are credited in the IP2 Station Blackout analysis required by 10CFR50.63, "Loss of All Alternating Current Power," as alternate AC (AAC) power sources. The proposed limits are consistent with the IP2 licensing basis requirements for Station Blackout.

Requirements for the IP2 GTs and fuel supply were added to the TS in License Amendment 60 (Ref. 4). As described in the staff's Safety Evaluation (SE) for License Amendment 60, the requirement for TS to assure availability of the GTs was identified in section 3.1.24 of the NRC Staff's Fire Protection Safety Evaluation, dated January 31, 1979. The original calculation for fuel oil requirements assumed that no-load fuel oil consumption was "0" and then increased linearly to the full load nominal consumption. The revised calculation assumes that the no load fuel consumption is ~30% of the full load nominal consumption and then increases linearly to the full load nominal consumption. Additionally, the revised calculation conservatively applies corrections to the nominal consumption curve to account for factors such as aging. There is no change to the requirement to maintain a 3-day fuel oil supply.

The SE (Ref. 1) for IP2 compliance with 10CFR50 Appendix R notes the availability of the motor driven auxiliary feedwater pump (AFW) as a backup to the turbine driven AFW pump. The previous minimum load rating calculation considered only the minimum required loads. In particular, it did not consider the possible operation of the motor driven AFW pump. The current calculation supports the operation of the motor-driven Auxiliary Feedwater pump. In addition, the calculation considered multiple combinations of additional loads that might be used for post-fire safe shutdown. The limiting combination would require a load of approximately 1600 kW. Thus the proposed 2000 kW requirement conservatively assures the ability of the GTs to supply the loads needed to ensure post-fire safe shutdown.

Overall Conclusion

In conclusion, based on the considerations above, (1) there is a reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

NO SIGNIFICANT HAZARDS CONSIDERATION EVALUATION

ENO has determined that this proposed Technical Specification change does not involve a significant hazard consideration as defined by 10CFR50.92(c).

- 1. Operation of the facility in accordance with the proposed amendment would not involve a significant increase in the probability of occurrence or consequences of an accident previously evaluated.**

The Gas Turbine Generators only provide a Licensing Basis Event mitigating function. There is no previously evaluated accident or event that is initiated by the Gas Turbine Generators or their associated fuel storage system. The ability of the Gas Turbine Generators to provide power, as a backup to the Emergency Diesel Generators, is enhanced by the proposed change to increase the amount of fuel stored on site and dedicated to Gas Turbine Generator operation. The increase in minimum load has an insignificant affect because the Gas Turbine Generators are capable of loads far in excess of the proposed minimum load.

Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

- 2. Operation of the facility in accordance with the proposed amendment would not create the possibility of a new or different kind of accident from any accident previously evaluated.**

There is no physical change to the plant. The currently existing fuel oil storage facilities will be used. The only change is to increase the minimum amount of fuel oil that must be maintained at the plant.

Therefore, the proposed change does not create a new accident initiator or precursor, or create the possibility of a new or different kind of accident from any accident previously evaluated.

- 3. Operation of the facility in accordance with the proposed amendment would not involve a significant reduction in the margin of safety.**

The proposed limit for Gas Turbine Generator fuel oil storage ensures compliance with the current licensing basis that the Gas Turbine Generators be able to power all the loads required by 10CFR50 Appendix R to place the plant into a safe shutdown condition following a fire and maintain safe shutdown for three days. The increase in the minimum load rating ensures that each Gas Turbine Generator will support operation of additional components to enhance operational flexibility in response to an event.

Therefore, operation of the facility in accordance with the proposed amendment would

not involve a significant reduction in the margin of safety.

CONCLUSIONS

Based on the above evaluation, ENO has concluded that the proposed change will not result in a significant increase in the probability or consequences of any accident previously analyzed; will not result in a new or different kind of accident from any accident previously analyzed, and does not result in a reduction in any margin of safety. Therefore, operation of IP2 in accordance with the proposed amendment does not involve a significant hazards consideration. In addition, the proposed change to the TS has been reviewed by both the Station Nuclear Safety Committee (SNSC) and the Nuclear Facilities Safety Committee (NFSC). Both committees concur that the proposed change does not involve a significant hazards consideration.

ENVIRONMENTAL ASSESSMENT

An environmental assessment is not required for the above proposed change because the requested change to the Indian Point Unit No. 2 Technical Specifications conforms to the criteria for "actions eligible for categorical exclusion," as specified in 10CFR51.22(c)(9). The requested change will have no impact on the environment. The proposed change does not involve a significant hazards consideration as discussed in the preceding section. The proposed change does not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite. In addition, the proposed change does not involve a significant increase in individual or cumulative occupational radiation exposure.

References

1. NRC letter (RA83-100) to Consolidated Edison, "Safety Evaluation Report – Appendix R to 10 CFR 50, Items III.G and III.L – Indian Point 2," dated August 22, 1983
2. NRC letter (RA89-018) to Consolidated Edison, "Evaluation of Fire Protection Features at Indian Point Nuclear Generating Unit No. 2 (TAC. 66065)," dated January 12, 1989
3. NRC letter (RA91-206) to Consolidated Edison, "Safety Evaluation of the Indian Point Nuclear Generating Unit No. 2, Response to the Station Blackout Rule (TAC No. M68556)," dated November 21, 1991
4. NRC letter to Consolidated Edison Company issuing Amendment No. 60 for Facility Operating License No. DPR-26, dated January 28, 1980

ATTACHMENT 2 TO NL 02-002

**TECHNICAL SPECIFICATION PAGES IN
STRIKEOUT/SHADOW FORMAT**

Deleted text is shown as ~~strikeout~~.

Added text is shown as shaded.

3. Power operation may continue for 24 hours, if the entire 138 kV or the entire 13.8 kV source of power is lost, provided the three diesel generators are operable. This operation may be extended beyond 24 hours provided the limiting condition is reported to the NRC within the subsequent 24-hour period with an outline of the plans for restoration of offsite power.
4. When 6.9 kV buses 5 and 6 are supplied through a 13.8/6.9 kV transformer, in addition to satisfying the requirements of Specification 3.7.B.3 above, the 6.9 kV bus tie breaker control switches 1-5, 2-5, 3-6, and 4-6 in the CCR shall be placed in the "pull-out" position and tagged to prevent an automatic transfer of the 6.9 kV buses 1, 2, 3 and 4.
5. One battery may be inoperable for 24 hours provided the other batteries and four battery chargers remain operable with one battery charger carrying the dc load of the failed battery's supply system.
6. One battery charger may be inoperable for 24 hours provided the following conditions are satisfied:
 - a. The other three battery chargers and their associated batteries are operable; and
 - b. The affected battery shall have the Specification 4.6.C.1 surveillance initiated within one hour of the time the battery charger is determined to be inoperable and the surveillance shall be repeated every eight hours thereafter to determine battery operability. This surveillance frequency shall be maintained until the battery is declared inoperable or until the battery charger is declared operable.

C. Gas Turbine Generators:

1. At least one gas turbine generator (GT-1, GT-2 or GT-3) and associated switchgear and breakers shall be operable at all times.
2. A minimum of ~~54,200~~ 94,870 gallons of fuel for the operable gas turbine generator shall be available at all times.

storage tanks is maintained at all times to assure the operation of two diesels carrying their associated engineered safeguards equipment for at least seventy-three hours with three storage tanks available and for at least fifty hours with two storage tanks available⁽²⁾. Additional fuel oil suitable for use in the diesel generators will be stored either onsite or at the Buchanan Substation. The minimum storage of 29,000 gallons of additional fuel oil will assure continuous operation of two diesels for at least 118 hours at the minimum load for safeguards. Commercial oil supplies and trucking facilities exist to assure deliveries within one day's notice.

There are three onsite fuel oil storage tanks adjacent to the diesels. Each tank has an associated fuel oil transfer pump which has the capability to automatically feed two of the three diesels through either of two redundant supply headers. If one storage tank or transfer pump is unavailable, the remaining tanks or pumps with the additional 29,000 gallons of fuel oil at Buchanan Substation can supply the three diesels if required to supply at least minimum engineered safeguards equipment for at least 139 hours⁽²⁾.

If a diesel generator is out of service due to planned maintenance or testing, testing of the remaining diesel generators is not required. In this case, testing is not required because a planned emergency diesel generator maintenance or testing outage does not directly affect the availability or reliability of the remaining emergency diesel generators and is not indicative of a potential failure in the remaining emergency diesel generators.

One battery charger shall be in service on each battery so that the batteries will always be at full charge in anticipation of a loss-of-ac power incident. This ensures that adequate dc power will be available for starting the emergency diesel generators and other emergency uses.

The plant can be safely shut down without the use of offsite power since all vital loads (safety systems, instruments, etc.) can be supplied from the emergency diesel generators.

Any two of three diesel generators, the station auxiliary transformer or the separate 13.8 to 6.9 kV transformer are each capable of supplying the minimum safeguards loads and therefore provide separate sources of power immediately available for operation of these loads. Thus, the power supply system meets the single failure criteria required of the safety systems.

Three (3) gas turbine generators are directly available to the Indian Point site. One is located onsite (GT-1) and two additional units are located at the adjacent Buchanan Substation (GT-2 and GT-3). One gas turbine generator is more than adequate to provide an additional contingency of backup electrical power for maintaining the plant in a safe shutdown condition. The specified gas turbine generator minimum fuel inventory of ~~54,200~~ 94,870 gallons assures that one gas turbine generator will be capable of supplying more than the maximum electrical load for

B. DIESEL FUEL TANKS

A minimum oil storage of 48,000 gallons will be maintained for the station at all times.

C. STATION BATTERIES (NOS. 21, 22, 23, & 24)

1. Every month, the voltage of each cell, the specific gravity and temperature of a pilot cell in each battery and each battery voltage shall be measured and recorded.
2. Every 3 months, each battery shall be subjected to a 24-hour equalizing charge, and the specific gravity of each cell, the temperature reading of every fifth cell, the height of electrolyte, and the amount of water added shall be measured and recorded.
3. Each time data is recorded, new data shall be compared with old to detect signs of abuse or deterioration.
4. At least once every Refueling Interval (R##) each battery shall be subjected to a load test and a visual inspection of the plates.

D. GAS TURBINE GENERATORS

1. At monthly intervals, at least one gas turbine generator shall be started and synchronized to the power distribution system for a minimum of thirty (30) minutes with a minimum electrical output of ~~750~~ 2000 kW.

The batteries are of the type that can be visually inspected, and this method of assuring the continued integrity of the battery is proven standard power plant practice.

The tests specified in Specifications 4.6.D and 4.6.E are designed to assure that at least one gas turbine generator will be available to provide power for operation of equipment if required. Since the Indian Point Unit No. 2 alternate safe shutdown power supply system could demand a maximum electrical load of approximately ~~750~~ 1600 kW, the required minimum test load will demonstrate adequate capability. In addition, the minimum gas turbine fuel oil storage volume of ~~54,200~~ 94,870 gallons will conservatively assure at least three (3) days of operation of a gas turbine generator.

The specified test frequencies for the gas turbine generator(s) and associated fuel supply will be adequate to identify and correct any mechanical or electrical deficiency before it can result in a component malfunction or failure.

Reference

UFSAR Section 8.2