Before the United States
Nuclear Regulatory Commission

In the matter of	)	
	)	
POWER AUTHORITY OF THE STATE OF NEW YORK	)	Docket No. 50-286
	)	
Indian Point 3 Nuclear Power Plant	)	

Application for Amendment to
Operating License

Pursuant to Section 50.90 to regulations of the Nuclear Regulatory Commission (NRC), the Power Authority of the State of New York, as holder of Facility Operating License No. DRR-64, hereby applies for an Amendment to the Specifications contained in Appendices A and B of this license.

This application seeks to amend Sections 6.5, 6.8, 6.9 and 6.10 of Appendix A to the Operating License and to totally revise Appendix B to the Operating License. The proposed changes are being submitted in accordance with the request made in the NRC letter dated September 7, 1982 and reflect the model Radiological Environment Technical Specifications presented in draft Revision 3 of NUREG-0472.

The proposed changes to the Technical Specifications are presented in Attachment I to this application. The Safety Evaluation corresponding to this change is included in Attachment II.

POWER AUTHORITY OF THE STATE OF NEW YORK

BY C. M. Wilverding
for J. P. Bayne
Executive Vice President
Nuclear Generation

STATE OF NEW YORK
COUNTY OF WESTCHESTER

Subscribed and sworn to before me this 30th day of September, 1983

Doreen Pisco
Notary Public

DOREEN PISCO
Notary Public, State of New York
No. 4737373
Qualified in Westchester County
Term Expires March 30, 19 85

Enclosure 1 to IPN-83-84

Justification of Deviations

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Discharge Canal Flow Meter

A description of the discharge canal flow rate determination has been included in the ODCM.

Waste Gas Noble Gas Monitor

The waste gas holdup system noble gas monitor does not function as a release monitor. As such, the "Prior to Release" Source Check frequency does not apply. However, this monitor serves to verify that the total activity content of the radwaste tank does not exceed the applicable limits. This monitor is in use continuously and a Source Check frequency should have a time period associated with it. The proposed time frequency is monthly, which is consistent with the source check frequency associated with other continuous monitors at Indian Point 3.

Turbine Building Sump Effluent Line

A turbine hall drain system, which would collect leakage of contaminated secondary liquid during operation, does not exist at Indian Point 3. A method to determine releases via this pathway has been developed and is included in the ODCM. An action level to increase monitoring of releases via this pathway has been added to table 3.3-1.

Steam Generator Blowdown Flow Rate and Tank Level Indicating Devices, Surveillance Requirements

The indicating systems for the Steam Generator Blowdown Flow Rate and the tank levels listed in table 3.1-1 were not designed for repetitive testing.

All these instruments use mechanical detectors which require input of pressure signals to test the performance of the instruments. The establishing of conditions to input a pressure signal would require physical separation of the instrument from the system and connection of a standard input and a calibrated measuring device to the output. The proposed surveillance requirements are consistent with other similar devices in use at Indian Point 3.

Hydrogen and Oxygen Monitors

Table 3.2-1 indicates that the Channel Functional Test for the hydrogen and oxygen monitors are not applicable. This does not mean that the channel functional test will not be conducted. The method employed for the Channel Functional test is essentially identical to that employed for the Channel Calibration. The Channel Calibration will be conducted monthly. Thus the requirements for the Channel Calibration and the Channel Functional test as suggested by the Model RETS are satisfied.

Containment Purge System - Noble Gas Activity Monitor

The containment noble gas monitor continuously monitors the containment activity. This monitor is not in a release path. As this monitor continuously monitors a building, a "prior to release" Source Check is not applicable. The proposed Source Check frequency is monthly, which is consistent with the Source Check frequency associated with other continuous monitors at Indian Point 3.

Unprotected Outdoor Tanks

The Refueling Water Storage Tank (RWST) is normally filled subsequent to refueling. The maximum allowable concentration for RWST water at an activity of 10 curies is based on a 100% RWST level (358,500 gallons):

$$\frac{10 \text{ Ci} \times 10^6 \mu\text{Ci/cc}}{358{,}500 \text{ gal} \times 3785 \frac{\text{cc}}{\text{gal}}} = 7.37 \times 10^{-3} \mu\text{Ci/cc}$$

A source of this activity level is not readily availiable during operation. The possibility of adding liquid to the RWST causing the 10 curie limit to be exceeded is remote. Prior to being pumped into RWST at the end of refueling operations, the liquid will be sampled for radioactivity concentration.The current RWST sampling frequency is quarterly. The proposed sampling frequency of monthly is a 3 fold increase in frequency. The proposed monthly sampling frequency provides adequate assurance that the 10 curie limit will not be exceeded.

The Primary Water Storage Tank (PWST) does not normally receive radioactive liquids. The PWST would have to becompletely filled with liquid with an activity of 1.6×10^{-2} μ Ci/cc in order to contain 10 curies.

$$\frac{10 \text{ Ci} \times 10^6 \mu\text{Ci/Ci}}{165{,}000 \text{ gal} \times 3785 \frac{\text{cc}}{\text{gal}}} = 1.6 \times 10^{-2} \mu\text{Ci/cc}$$

The loss of liquid with this activity into the PWST would be readily identified at the source. Therefore the proposed monthly sampling frequency provides adequate assurance that the 10 curie limit will not be exceeded.

The monitor tanks are not utilized for the long term retention of radioactive liquids. The activity necessary to fill these tanks with 10 curies is 2.25×10^{-1} μCi/cc.

$$\frac{10 \text{ Ci} \times 10^6 \text{ Ci/cc}}{11750 \text{ gal} \times 3785 \frac{\text{gal}}{\text{cc}}} = 2.25 \times 10\text{-}1 \text{ μCi/cc}$$

These monitor tanks receive liquids from the waste processing system. The waste processing system would not be considered operable if a liquid with this activity concentration was released by this system.

Enclosure 2 to IPN-83-84

Offsite Dose Calculation Manual Revisions*

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* Please note that the numbering of the sections in Chapter 5 of the ODCM has been revised to reflect the Indian Point 3 Technical Specification version of the RETS.

5/3.6.B

Cumulative dose contributions from direct radiation would be determined by evaluation of existing perimeter and environmental TLDs if this evaluation was necessary per Specification 2.6.B.

5/Table 3.4-1

Containment Pressure Reliefs:

Containment pressure reliefs occur on a frequent enough basis to be considered continuous and are sampled as part of the plant vent release path. However, to ensure that the release rate will not be exceeded, the containment noble gas monitor (R-12) and the expected flow rate are used to calculate a release rate. The effluent noble gas monitor in the plant vent is used to verify these calculations.

5/Table 3.4-1

Composite Particulate Samples:

One of these methods will be used to obtain a composite sample:

1. Samples will be taken weekly and averaged monthly, or

2. Samples will be taken weekly and counted together once per month.

5/Table 3.3-1

A turbine hall drain system which would collect leakage of contaminated secondary plant waters during operation does not exist at IP3. The sumps which are present in the turbine hall five foot elevation receive drains from areas containing secondary plant components at sub atmospheric pressures. These sumps would not meet the intent of the NUREG-0472.

The activity released to the environment via this pathway is negligible when steam generator blowdown activity is less than 3×10^{-5} uCi/cc. Activity released via this pathway when steam generator activity exceeds 3×10^{-5} uCi/cc is determined by the following method:

$$\text{Turbine Hall Drain Effluent Activity} = \left[\text{Feedwater Specific Activity}\right] \times \left[\text{Steam Plant Makeup Rate} - \text{Steam Generator Blowdown}\right]$$

5/ Table 3.3-1

Steam Generator blowdown activity is determined by samples taken three times per week. This frequency is required by Table 4.1-2 item 6 of Appendis A of the stations operating license. Those "grab" samples of steam generator are collected in manner to be proportional to the rate of flow of the total steam generator blowdown. These samples are then analyzed for the various radionuclides at the frequencies specified in Table 3.3-1B (further flow proportional composites are made where appropriate).

5/Table 2.2-1

The discharge canal flow rate is determined by the use of pump flow characteristic curves. The normal flow for the condenser cooling pumps is 140,000 gallons per minute. When the flow restrictors are installed during the cold weather months, these restrict the flow to approximately 60% of the unrestricted value. This would result in a normal restricted flow rate of 84,000 gallons per minute.

5/2.3.4

Radioactivity content in outdoor tanks is to be limited to less than ten curies. Compliance with this requirement is demonstrated by limiting the radioactive concentration in these tanks to the value which results in ten curies when he tank is at full liquid capacity. The radioactive concentrations for these tanks are:

RWST

$$\frac{10 \text{ curies} \times 10^6 \ \mu\text{Ci/curie}}{358{,}500 \text{ gals} \times 3785 \text{ ml/gal.}} = 7.3 \times 10^{-3} \ \mu\text{Ci/ml}$$

PWST

$$\frac{10 \text{ curies} \times 10^6 \ \mu\text{Ci/curie}}{165{,}000 \times 3785 \text{ ml/gal.}} = 1.6 \times 10^{-2} \ \mu\text{Ci/ml}$$

31 & 32 monitor tanks

$$\frac{10 \text{ curies} \times 10^6 \ \mu\text{Ci/curie}}{11750 \text{ gals} \times 3785 \text{ ml/gal.}} = 2.2 \times 10^{-1} \ \mu\text{Ci/ml}$$

Outside Temporary Tanks*

$$\frac{10 \text{ curies} \times 10^6 \ \mu\text{Ci/curie}}{\text{Volume in Gals.} \times 3785 \text{ ml/gal.}} = \mu\text{Ci/ml}$$

* At the present time there are no outside temporary tanks at Indian Point 3.

5/2.3.4 (Cont'd)

The refueling water storage tank has the potential to be filled from the reactor cavity with liquid which exceeds the limits stated. Therefore prior to filling the RWST from the reactor cavity after refueling operations, the reactor cavity (or residual heat removal system) must be sampled for radioactivity and action taken to reduce this radioactivity if it exceeds the concentration limit for the RWST.

Outside temporary tanks should not be filled with liquid which could exceed the concentration limit calculated. Therefore prior to transfer to outside tanks the source of liquid shall be sampled for radioactivity and action taken to reduce this radioactivity if it exceeds the concentration limit calculated.