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March 13, 2001

Re: Indian Point Unit No. 2  
Docket No. 50-247  
NL-01-029

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Mail Station P1-137  
Washington, DC 20555-0001

Subject: Request For Rescission Order Regarding Control Room Habitability  
(NUREG-0737, Item III.D.3.4)

Reference: 1) NRC Letter from Mr. S. A. Varga to Mr. J. D. O'Toole dated  
March 18, 1983

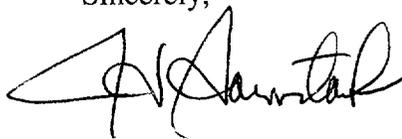
Consolidated Edison Company of New York, Inc. (Con Edison), the Licensee for Indian Point Unit No. 2 (IP-2), pursuant to 10 CFR 2.206 requests rescission of the March 18, 1983, order (Reference 1) pertaining to Facility Operating License DPR-26 for the NRC staff position presented in NUREG-0737, "Clarification of TMI [Three Mile Island] Action Plan Requirements," Item III.D.3.4. Attachment 1 contains the basis for this request.

No new regulatory commitments are being made by Con Edison in this correspondence.

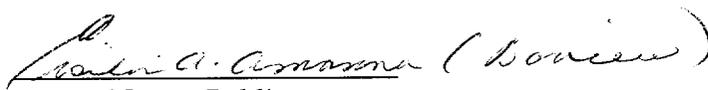
Should you or your staff have any questions regarding this matter, please contact Mr. John McCann, Manager, Nuclear Safety & Licensing at (914) 734-5074.

Sincerely,

Attachment



Subscribed and sworn to  
before me this 13 day  
of March, 2001

  
Notary Public

ERSILIA A. AMANNA  
Notary Public, State of New York  
No. 01AM8038889  
Qualified in Westchester County  
Commission Expires March 20, 2002

A003

C: Mr. Hubert J. Miller  
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ATTACHMENT 1

Request For Rescission Order  
Regarding Control Room Habitability  
(NUREG-0737, Item III.D.3.4)

Consolidated Edison Company of New York, Inc.  
Indian Point Unit No. 2  
Docket No. 50-247  
March 2001

Consolidated Edison Company of New York, Inc. (Con Edison), the Licensee for Indian Point Unit No. 2 (IP-2), pursuant to 10 CFR 2.206 requests rescission of the March 18, 1983, order (Reference 1) pertaining to Facility Operating License DPR-26 for the NRC staff position presented in NUREG-0737, "Clarification of TMI [Three Mile Island] Action Plan Requirements," Item III.D.3.4. This request is made subsequent to the NRC's issuance of Amendment No. 208 to the IP-2 Technical Specifications, which relocated the requirements of TS Sections 3.3.H.3 and 4.5.E.7 relative to toxic gas detection to the Updated Final Safety Analysis Report (UFSAR). Generic Letter (GL) 95-10, "Relocation of Selected Technical Specification Requirements Related to Instrumentation," provided the basis for the relocation of these toxic gas monitoring requirements from the Technical Specifications to licensee-controlled documents such as the UFSAR.

In accordance with NUREG-0737, Item III.D.3.4, "Control Room Habitability," the toxic gas monitoring system was installed following a study performed in 1981 pertaining to the habitability of the Central Control Room (CCR). The system provides an alarm to the CCR of the presence of ammonia or chlorine gas, and the automatic closing of all CCR heating ventilating and air conditioning (HVAC) system outside air dampers to isolate the CCR. In addition, plant procedure ARP AS-1 instructs the operators to don protective equipment within two minutes of receiving the alarm. In 1996 a calculation was performed to assure that operators had sufficient time (two minutes from NRC Regulatory Guide 1.95, "Protection of Nuclear Power Control Room Operators Against An Accident Chlorine Release," Rev.1) to don personal protective breathing apparatus after receiving an alarm indicating exposure to toxic gas. In all cases the CCR was deemed to be habitable.

As provided in the NRC's Safety Evaluation (Reference 2) approving the above-mentioned Technical Specification Amendment, "The toxic gas monitors serve an important safety function and the requirements for these monitors should be in a controlled document. If the toxic gas monitor requirements are relocated to the UFSAR, changes to these requirements will be controlled by 10 CFR 50.59. This regulation allows licensees to make changes to their facilities without license amendments only if those changes meet specific standards."

Recently, during the NEI pilot program for use of NUREG-1465, "Accident Source Terms for Light-Water Nuclear Power Plants," Con Edison performed a re-analysis of CCR habitability. As input for this analysis the CCR was tested (using tracer gas) to determine the amount of inleakage into the CCR during a radiological event. The toxic gas lineup was included in this test. The test results were used to support an analysis of chemical concentrations in the CCR following offsite chemical releases. Other utilities have used similar methodology to analyze toxic gas. The analysis took into account the dynamics of the release, dispersion of the dense gas cloud under the influence of gravity and meteorology, introduction of the toxic gas (and clean air, after the cloud passes) through the CCR intake or because of inleakage, and mixing of the gas in the CCR. Each of the releases is characterized as a sudden release at ambient temperature. The calculation analyzed three scenarios involving offsite releases. The first two scenarios involve the rupture of a railway tank car traveling along the west bank of the Hudson River 1450 meters from the CCR intake. One contains 77 tons of chlorine; the other contains 64 tons of ammonia. The third scenario is the rupture of a stationary one ton chlorine tank 3713 meters from the CCR intake.

The number of railcars carrying ammonia that travel in New York State each year was estimated using data from the 1997 Economic Census to be 838 +/- 30. The corresponding number for chlorine is 900 +/- 32. These conservative numbers were used in the calculation, although it is unlikely that all of the shipments in the state run along this line.

The interaction of the path of the railcar as it follows the track, the number of chemical railcars that travel along the track annually, and the probability of a derailment that leads a car to rupture were used to determine the annual probability of exceedence of the Immediately Dangerous to Life and Health (IDLH) level. In determining IDLH values the ability of a worker to escape without loss of life or irreversible health effects was considered along with severe eye or respiratory irritation and other deleterious effects (e.g., disorientation or incoordination) that could prevent escape. As a safety margin, the Standards Completion Program IDLH values were based on the effects that might occur as a consequence of a 30-minute exposure.

The meteorological conditions at the plant were analyzed using data obtained from the meteorological monitoring system at the plant during calendar years 1995, 1996, and 1997.

Using worst case scenarios for the location of the tank car rupture and meteorological conditions, and conservatively assuming 1300 cfm of inleakage (tracer gas testing showed 1251 cfm) the maximum concentration of ammonia in the CCR was found to be 50.406 ppm, well below the IDHL limit of 300 ppm.

Using the worst case scenarios for the rupture of the stationary one-ton tank of chlorine results in a maximum concentration of 0.424 ppm. This value is less than 5% of the IDLH limit of 10 ppm in the CCR.

Only the chlorine railroad car rupture case resulted in exceeding the IDLH concentration in the CCR (14 ppm). In this case the expected annual frequency of exceeding the IDLH level in the CCR is less than  $3.0 \times 10^{-6}$  per year, even under the assumption that all of the chlorine shipped in the State of New York travels over the rail line adjacent to the plant. Furthermore, even if the event occurs and is undetected, the frequency of core damage resulting from operator incapacitation will be less than  $7.4 \times 10^{-9}$  per year.

Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," provides guidance on using probabilistic risk assessment (PRA) to support decisions to modify an individual plant's licensing basis. Section 2.2.4 (Acceptance Guidelines) provides two sets of acceptance guidelines, one for core damage frequency (CDF) and one for large early release frequency (LERF), and states that both should be used. According to the Regulatory Guide "when the calculated increase in CDF is very small, which is taken as being less than  $10^{-6}$  per reactor year, the change will be considered regardless of whether there is a calculation of total CDF" and "when the calculated increase in LERF is very small, which is taken as being less than  $10^{-7}$  per reactor year, the change will be considered regardless of whether there is a calculation of total LERF."

As stated above, the frequency of core damage resulting from operator incapacitation from an undetected chlorine release is less than  $7.4 \times 10^{-9}$  per year. This is more than two orders of magnitude less than the core damage frequency of  $10^{-6}$  cited in the Regulatory Guide. It is also more than an order of magnitude less than the LERF threshold of  $10^{-7}$ . This is consistent with NUREG 1407, "Procedural and Submittal Guidance for the Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities," for performance of IPEEE, that contains a hazards frequency cutoff of  $10^{-5}$  and a core damage frequency cutoff of  $10^{-6}$ . Therefore, the requirement for monitoring toxic gas is no longer needed.

Based on the information presented above, Con Edison hereby requests relief from the March 18, 1983, order pertaining to Facility Operating License DPR-26 for the NRC staff position presented in NUREG-0737, "Clarification of TMI [Three Mile Island] Action Plan Requirements" Item III.D.3.4.

References:     1) NRC Letter from Mr. S. A. Varga to Mr. J. D. O'Toole (Con Edison) dated March 18, 1983  
                  2) NRC Letter from Mr. J. F. Harold to Mr. A. A. Blind (Con Edison) dated April 20, 2000