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August 25, 1995

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: Emergency Action Levels

REFERENCE:

- 1) Con Edison letter dated July 6, 1994, S. B. Bram to Document Control Desk, NUMARC/NESP-007 Based Emergency Action Levels.
- 2) Con Edison letter dated May 12, 1994, S. E. Quinn to Document Control Desk, Response to Request for Additional Information, Proposed Emergency Action Levels (TAC No. M89926).
- 3) NRC letter dated July 11, 1995, F. J. Williams to S. E. Quinn, Emergency Action Level Changes - Indian Point Nuclear Generating Unit No. 2 (TAC No. M89926).

By Reference 1 as supplemented by Reference 2, Con Edison submitted proposed changes to the Indian Point Nuclear Generating Unit No. 2 emergency action levels (EALs). By Reference 3, NRC approved the EAL changes, concluding that they meet the requirements of 10 CFR 50.47(b)(4) and Appendix E to 10 CFR Part 50.

The purpose of this letter is to correct EAL 2.1.3 and 2.2.1. This correction clarifies the reading of Radiation Monitor R-41 to reflect its actual reading for containment radiation levels greater than 66 microcuries. Additionally, these EALs were amended to read "increasing RCS leakage" to more accurately reflect the basis.

Accordingly, attached are proposed corrected pages for the EAL Generation Package.

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

Very truly yours,

Thomas Schuman

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Category 2.0
Reactor Fuel

2.0 Reactor Fuel

2.1 Coolant Activity

2.1.1 Unusual Event [SU4]

Coolant sample activity $\geq 60/(\text{E bar}) \mu\text{Ci/cc}$

All

2.1.2 Alert [fl]

Coolant activity $> 300 \mu\text{Ci/cc}$ I-131 equivalent

Power operation, hot shutdown

2.1.3 Site Area Emergency [fl, rpl/rl]

Coolant activity $> 300 \mu\text{Ci/cc}$ I-131 equivalent and any of the following:

- RED path on F-0.4, INTEGRITY
- Primary system leakage exceeding capacity ($> 75 \text{ gpm}$) of a single charging pump
- RCS subcooling $<$ SI initiation setpoint due to RCS leakage
- Rise in R-41 offscale or R-42 $> 0.17 \mu\text{Ci/cc}$ due to increasing RCS leakage

Power operation, hot shutdown

2.0 Reactor Fuel

2.2 Containment Radiation

2.2.1 Alert [rl]

Rise in R-41 offscale or R-42 $> 0.17 \mu\text{Ci/cc}$ due to increasing RCS leakage

Power operation, hot shutdown

2.2.2 Site Area Emergency [fl, rl]

Containment radiation monitor R-25 or R-26 $> 17 \text{ R/hr}$

Power operation, hot shutdown

2.2.3 General Emergency [fl, rl, cpl]

Containment radiation monitor R-25 or R-26 $> 68 \text{ R/hr}$

Power operation, hot shutdown

2.0 Reactor Fuel 2.1 Coolant Activity

2.1.3 Site Area Emergency

Coolant activity > 300 $\mu\text{Ci/cc}$ I-131 equivalent and any of the following:

- RED path on F-0.4, INTEGRITY
- Primary system leakage exceeding capacity (> 75 gpm) of a single charging pump
- RCS subcooling < SI initiation setpoint due to RCS leakage
- Rise in R-41 offscale or R-42 > 0.17 $\mu\text{Ci/cc}$ due to increasing RCS leakage

NUMARC IC:

N/A

FPB loss/potential loss:

Fuel clad loss, RCS potential loss/loss

Mode Applicability:

Power operation, hot shutdown

Basis:

This EAL addresses combinations of fuel clad loss with RCS loss and potential loss indicators.

300 $\mu\text{Ci/cc}$ I-131 equivalent coolant activity corresponds to about 2% to 5% fuel clad damage. When reactor coolant activity reaches this level, significant clad heating has occurred and thus the fuel clad barrier is considered lost. This condition in combination with any of the following RCS loss/potential loss indicators warrants declaration of a Site Area Emergency:

RED path on F-0.4, INTEGRITY: RED path indicates an extreme challenge to the safety function derived from appropriate instrument readings, and indicates a potential loss of RCS barrier.

Primary system leakage exceeding capacity (> 75 gpm) of a single charging pump: This EAL is based on the inability to maintain normal liquid inventory within the Reactor Coolant System (RCS) when RCS leakage exceeds the capacity of one charging pump. 75 gpm is the minimum operability flow rate for each charging pump.

RCS subcooling < SI initiation setpoint due to RCS leakage: This loss of RCS addresses conditions where leakage from the RCS is greater than available inventory control capacity such that a loss of subcooling has occurred. The loss of subcooling is the fundamental indication that the inventory control systems are inadequate in maintaining RCS pressure and inventory against the mass loss through the leak.

R-41 offscale OR > 0.17 $\mu\text{Ci/cc}$ on R-42 due to increasing RCS leakage indicates the release of reactor coolant to the containment. The indication was derived assuming a step increase in RCS leak rate from 1 gpm to 75 gpm measured 1 hour after start and dispersal of the reactor coolant noble gas and iodine inventory associated with FSAR (1% defects) into the containment atmosphere. The value of .17 $\mu\text{Ci/cc}$ on R-42 is derived from the sum of the results for KR-87, 88, XE-133, 135 and 138. This part of the EAL is indicative of a RCS leak only.

PEG Reference:

FC2.1 + RCS1.1, RCS2.1, RCS2.2 and RCS4.1

Basis Reference(s):

1. Letter from D. Gaynor to R. Burns 7/27/93 "EAL Technical Basis 2.1.2"
2. CSFST F-0.4, Integrity
3. Drawing no. 198OM 1085
4. PT-Q33
5. E-0, Reactor Trip Or Safety Injection
6. "R-41 and R-42 Responses Post-Leak Rate Change" D. Smith to B. Kessler dated 2/16/95.

2.0 Reactor Fuel 2.2 Containment Radiation**2.2.1 Alert**

Rise in R-41 offscale or R-42 > **0.17 $\mu\text{Ci/cc}$** due to increasing RCS leakage

NUMARC IC:

N/A

FPB loss/potential loss:

RCS loss

Mode Applicability:

Power operation, hot shutdown

Basis:

R-41 offscale OR > 0.17 $\mu\text{Ci/cc}$ on R-42 due to increasing RCS leakage indicates the release of reactor coolant to the containment. The indication was derived assuming a step increase in RCS leak rate from 1 gpm to 75 gpm measured 1 hour after start and dispersal of the reactor coolant noble gas and iodine inventory associated with FSAR (1% defects) into the containment atmosphere. The value of .17 $\mu\text{Ci/cc}$ on R-42 is derived from the sum of the results for KR-87, 88, XE-133, 135 and 138. This EAL is indicative of a RCS leak only. If R-25/R-26 readings increase to that specified by Reactor Fuel EAL 2.2.2, significant fuel damage would also be indicated.

PEG Reference:

RCS4.1

Basis Reference(s):

1. "R-41 and R-42 Responses Post-Leak Rate Change" D. Smith to B. Kessler dated 2/16/95.