

July 6, 1971

50-247

D. Muller, Chief, PWR No. 1, DRL

INDIAN POINT 2 - QUESTIONS

Attached are the answers to the two questions directed to the staff at the Indian Point 2 hearing.

If any additional clarification of these two points is required please contact Dr. Burley.

R. P. Grill, Chief
Site Safety Branch
Division of Reactor Licensing

Enclosure:
Add. Questions

cc w/enclosure:
R. DeYoung
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OFFICE ▶	SSB	SSB					Memo
SURNAME ▶	G. Burley:bc	R. P. Grill					
DATE ▶	7/6/71	7/6/71					

2. In the evaluation of potential offsite doses for the Indian Point 3 plant, the staff has relied on the source term and plateout assumptions stated in TID-14844. The Indian Point 3 decision questioned the validity of using these plateout assumptions in conjunction with a containment spray which both removed a significant fraction of the airborne iodine and decreased the driving force to the walls and interior surfaces.

In the calculational model suggested in TID-14844, instantaneous plateout of 50% of the halogens released from the primary system is assumed. The staff has attempted to assess the degree of conservatism associated with this assumption by use of a realistic time-dependent plateout model. The results indicate that, in the absence of sprays, the airborne iodine concentration calculated to be available for leakage from the containment is less for the more realistic model than would be obtained by applying the TID-14844 assumptions.

For the combination of containment sprays and the plateout process acting simultaneously as iodine removal mechanisms in the containment, the overall iodine removal calculated with a realistic time-dependent plateout model, dependent only on iodine transport to surfaces by natural convection processes and neglecting steam transport, exceeds that derived from the instantaneous plateout model unless the spray removal rate is relatively high (spray removal constant of $10-15 \text{ hr}^{-1}$ or greater depending on containment volume). The staff therefore has concluded that use of the TID-14844 plateout assumption for the Indian Point 3 plant is both reasonable and conservative.