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Vice President

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August 22, 1990

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: Generic Letter No. 88-17; Clarified Response

REFERENCE:

- 1) Con Edison letter to the NRC, same subject, dated January 4, 1989
- 2) Con Edison letter to the NRC, same subject, dated February 3, 1989

By the above referenced letters, Con Edison provided its response to Generic Letter No. 88-17, Loss of Decay Heat Removal. Since these submittals, experience and reconsideration of technical issues now causes us to submit a clarified response specific to establishment of a vent path in the Reactor Coolant system during draindown. The presence of a vent path would prevent overpressurization of the RCS should decay heat removal capability be lost during draindown.

The Generic Letter inferred, though not explicitly, that venting capability should be established when the water level during RCS draindown reached 3 feet below the reactor vessel flange.

We committed in the above referenced letters to removal of either the pressurizer manway or a steam generator manway prior to entering a reduced inventory condition. Removal of the steam generator primary manway cannot occur at 3 feet below the reactor vessel flange as the steam generator must be drained to accomplish this task.

This commitment was made in consideration of providing a large vent path for worst case conditions, i.e., draindown shortly after shutdown. Our experience has been that most draindown evolutions have more frequently occurred substantially after shutdown. The PORVs provide an adequate vent path without the man-rem penalty associated with pressurizer manway removal.

In further evaluation of the pros and cons of providing a vent path we have concluded that the negative aspect of the loss of the steam generators as a decay heat removal path outweighs the benefits gained by venting in some circumstances. Loss of the steam generator heat removal path would be the consequence of removal of either the pressurizer manway or the steam generator primary manway. If steam generator nozzle dams or RCS cold leg openings are utilized during draindown, adequate vent paths must exist to avoid ejection of water in the liquid phase. However, it is not necessary that venting be established 3 feet below the reactor vessel flange.

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In lieu thereof, we are prepared to commit to establishing a vent path prior to RCS draindown to that level where RHR vortexing is physically possible. Vortexing does not occur unless the RCS piping is drained more than 2". Due to extensive testing at IP-2, the vortexing characteristics (RHR pump flow and RCS level) have been well established. An ultrasonic level detector has been installed which provides accurate level detection in this region independent of RCS pressure. Where large vent paths are necessary the steam generator primary manway will be removed. In other instances the PORVs may provide an adequate vent path.

Proceeding in this manner preserves RCS integrity and permits utilization of steam generator(s) for decay heat removal over the major changes in elevation during draindown where accurate level indication is difficult to achieve and where venting via large RCS openings is of little assistance. Should decay heat removal capability be lost while draining, the positive effect of having the steam generators available, with the RCS intact, outweighs the negatives of RCS pressurization. Experience indicates that accurate RCS level indication is only assured when the steam generator primary side, pressurizer and reactor vessel communicate with each other via a gas phase. This occurs only when the RCS hot leg is drained 2". From a safety viewpoint we believe it is more advantageous to introduce a large RCS opening at this point, where the level is accurately known, rather than at a higher level, where the measurement is more susceptible to error.

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

Very truly yours,



cc: Mr. Thomas T. Martin
Regional Administrator - Region I
US Nuclear Regulatory Commission
475 Allendale Road
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Subscribed and sworn to
before me this 23rd day
of August, 1990

Mr. Donald S. Brinkman, Senior Project Manager
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