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May 31, 1988

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

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

SUBJECT: Response to Generic Letter 88-05, Boric Acid Corrosion
of Carbon Steel Reactor Pressure Boundary Components in
PWR Plants.

As requested in Generic Letter 88-05, we have reviewed our programs which were implemented to minimize the possibility of boric acid corrosion damage to the reactor coolant pressure boundary. Subsequent to the issuance of IE Bulletin 82-02, we initiated a program for the examination of carbon steel bolting in systems which contain borated water. That original program addressed examination of those major components identified in Bulletin 82-02 and has since been expanded to cover more than 350 mechanical connections.

The principal locations where small leaks could cause degradation of the primary pressure boundary by boric acid corrosion at Indian Point are in the reactor coolant system; primarily the reactor vessel head penetrations, the pressurizer, steam generator manways, reactor coolant pumps and the in-core instrumentation seal table. While these are the primary locations of interest, our program also includes further inspections such as the Chemical Volume and Control System and the Safety Injection System.

The systematic program which has been implemented at Con Edison to identify locations where small leaks may exist includes the following:

Reactor coolant leakage surveillance is performed once per shift by operations personnel. If the Containment radioparticulate monitor indicates a step increase, within one hour the reactor coolant leak rate is calculated and monitored. If leakage is within Technical Specification limits, and is evaluated as safe, operation may continue with frequent surveillance. The shift operators and the shift technical advisor are required to notify the senior watch supervisor and the operations manager, who have for their use the Technical Support and Engineering organizations for determination of an acceptable condition.

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In addition to the once per shift surveillance of reactor coolant system leakage, Con Edison performs Containment visual inspections for any condition that does not appear normal, including leakage and boric acid accumulations. This inspection is performed monthly or, when deemed appropriate, more frequently. The inspection procedure specifically requires visual inspection of the seven reactor vessel conoseals, steam generator and pressurizer instrument taps and associated piping, and the in-core instrument thimble seal table.

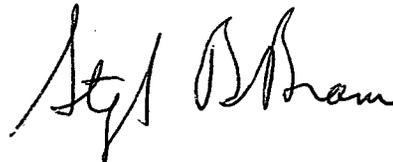
During each refueling outage, Con Edison implements an inspection procedure which covers carbon steel fasteners one inch in diameter or greater in systems which contain borated water. The procedure also requires inspection of other valves or components which have been identified as having previously shown leakage or as being unacceptable to the reactor coolant system if leakage occurs. Pursuant to this carbon steel fastener program, if a component is judged to show unacceptable material degradation or damaged parts, the inspection procedure requires that immediate notification be made to the managers of the Quality Control or Quality Assurance before allowing cleaning of the component. Follow-up action is then taken for evaluation and/or appropriate repair or replacement of damaged components.

Con Edison has recently performed special inspections of the reactor vessel head, in particular, the head adapter plugs. Further inspections were performed which removed head insulation to inspect the reactor vessel head integrity. Modifications were also made to the head shrouding to allow inspections of head adapter plugs at temperature and pressure during hydrostatic testing.

In addition to the inspection program discussed above, our engineering procedures which address the development of design criteria for plant modifications are now being clarified to explicitly require consideration of the effects of potential boric acid leakage on carbon steel components.

Should you have any questions on this matter, please do not hesitate to contact us.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Stephen J. Brown". The signature is written in dark ink and is positioned below the typed name "Stephen J. Brown".

cc: Mr. William Russell
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