



BOSTON EDISON

Pilgrim Nuclear Power Station
Rocky Hill Road
Plymouth, Massachusetts 02380

April 3, 1992
BECO 92-043

Roy A. Anderson
Senior Vice President - Nuclear

Mr. T. E. Landry
U. S. Environmental Protection Agency
Waste Water Compliance Section
JFK Federal Building, Room 2113 WMM
Boston, MA 02203

Dear Mr. Landry:

The Boston Edison Company will be operating a permanent hydrogen injection system at the Pilgrim Nuclear Power Station (PNPS). The purpose of the hydrogen injection system is to inject hydrogen into the reactor coolant, via the feedwater system, to reduce the dissolved oxygen concentration. Reducing the dissolved oxygen concentration and maintaining high purity in the reactor coolant should reduce the susceptibility of reactor piping and materials to intergranular stress corrosion cracking. This process is referred to as Hydrogen Water Chemistry (HWC). The hydrogen injection system utilizes electrolytic generation of hydrogen and oxygen onsite.

Boston Edison requests permission for 3 gallons per minute of scrubber effluent from the Gas Generator Scrubber, associated with the hydrogen injection system, to be discharged through the PNPS discharge canal storm drain, NPDES Permit Discharge Point #005. In addition, there will be a weekly discharge of approximately 200 gallons of scrubber washdown water. The discharge flow of the washdown water, when combined with scrubber effluent, will not exceed 10 gallons per minute. There will be a concentration of approximately 60 ppm (parts per million) of potassium hydroxide (KOH) in the discharge effluent. The KOH will increase the pH of this discharge (which consists of source demineralized water plus a trace of KOH) to 10.9 standard units. Prior to entering Cape Cod Bay waters, the dilution from the flow of at least one circulating water pump (155,000 gpm) will render the concentration of KOH to 0.001 ppm (0.004 ppm when discharging the washdown water) and the pH will be comparable to background levels. Therefore, this discharge is expected to have no adverse impact on the marine environment. Discharge of this effluent will be continuous for the life of PNPS beginning in the Fall of 1992.

Please confirm whether the approval of this request will require modification of the existing NPDES Permit #MA0003557. We would appreciate a response to this request by May 1, 1992.

If additional information is required please contact Mr. R. D. Anderson at 617-849-8935.

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cc: See next page

Very truly yours,
ET Boulette
R. A. Anderson
for Good
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BOSTON EDISON COMPANY

Mr. T. E. Landry

Page 2

cc: U. S. Nuclear Regulatory Commission ✓
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U. S. Nuclear Regulatory Commission
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