



BOSTON EDISON

Pilgrim Nuclear Power Station
Rocky Hill Road
Plymouth, Massachusetts 02360

E. T. Boulette, PhD
Senior Vice President -- Nuclear

March 17, 1994

BEC0 94-031

Mr. Ted Landry
Environmental Protection Agency
Waste Water Compliance Section
JFK Federal Bldg
Room 2113 WMM
Boston, MA 02203

Dear Mr. Landry:

As discussed with you previously, Pilgrim Station would like to install a new, more efficient and economical demineralizing system for its use of city water. The current makeup water system utilizes city water processed through an ion exchange resin bed on a portable trailer. Reject water from the makeup trailer is discharged from neutralizing sump to the PNPS discharge canal via storm drain #005. Boston Edison is proposing to install a new demineralizing system using reverse osmosis and a smaller ion exchange resin bed.

The new process will pretreat the city water by reverse osmosis, removing 98% of the impurities. The system uses a small resin bed downstream of the reverse osmosis units. The impurities, i.e. constituents normally found in city water, are concentrated by a factor of approximately 3.3 and rejected by a waste stream that would be routed directly to the discharge canal via storm drain outfall #005, bypassing the neutralizing sump. The flow of the waste stream will be a maximum of 20 gpm, and an average daily volume of 1500 gallons, well within the NPDES permit limit of .015 MGD. The following table compares the current waste stream to the proposed waste stream:

	Current Process	Proposed Process
Max Waste Flow	500 gal/day	1500 gal/day
pH	6.1 - 8.4	6.1 - 8.4
Chlorides (ppm)	20	65
Sulfates (ppm)	20	65
Silica (ppm)	20	65
Total Organic Carbon (ppm)	30	100

9403250155 940317
PDR ADOCK 05000293
P PDR

JE23 1/0

Due to the low suspended solids, in the city water (<1 ppm) and the micron filters in the proposed process, the suspended solids in the waste stream will be well below the permit limit of 30 ppm (average monthly). The new system does not use any aggressive chemicals or toxic compounds for cleaning. Sodium meta-bisulfite is added continuously to the feed water to remove chlorine. Membranes are cleaned using a "clean-in-place" system that allows cleaning solutions to be collected and discharged via the neutralizing sump. It is anticipated that this type of cleaning will only be done once every six to twelve months.

We would appreciate your written approval of our use of a new PNPS demineralizing system as described above. Please contact Mr. Robert D. Anderson at (508) 830-7935 should you need further information regarding this matter.

Sincerely,

E. T. Boulette
E. T. Boulette
Senior Vice President-Nuclear

ETB/RDA/nas/DEMINERA

cc: Mr. Paul Hogan
Mass. Department of Environmental Protection
Division of Water Pollution Control
Regulatory Branch - 7th Floor
One Winter Street
Boston, Mass 02108

U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Senior Resident Inspector
Pilgrim Nuclear Power Station