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SENIOR VICE PRESIDENT
NUCLEAR

February 28, 1983
BECO Letter No. 83-58

Mr. Domenic B. Vassallo, Chief
Operating Reactors Branch #2
Division of Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

License No. DPR-35
Docket No. 50-293

Subject: Aerial Surveillance of Main Breakwater

Reference: NRC letter dated February 3, 1981, from Mr. T.A. Ippolito to Mr. A.V. Morisi

Dear Sir:

In the Reference, the NRC accepted Boston Edison's method of adopting an NRC recommendation to employ a photographic survey, both ground-based and aerial, to monitor the structural integrity of the main breakwater at Pilgrim Station.

A Baseline photographic surveillance was established by BECo in 1981, and subsequent photographic surveillance data can be compared to the 1981 Baseline to detect any major damage to the Breakwater or movement of the stones along it.

A comparison and assessment of the data conveyed in the 1981 and 1982 photographs, and the photographic techniques used, indicates the following:

- (a) That aerial photographs only provide an inventory of surface features (general configuration or geometry). Unless there is a discontinuity in the Main Breakwater that results in the complete severing of the structure, that is, the breakwater is no longer a monolithic structure when viewed in plan, there is no additional information concerning the structural integrity provided by aerial photography.
- (b) That the ground-based photographs indicate the position of each visible leeward stone along the length of the Main Breakwater. Survey data that defines the land-based camera locations relative to the benchmarks along the Main Breakwater is also provided. As a result, any shift in the general configuration (displacement in the horizontal plane) of the structure can be identified by comparison to previous survey data without the need for an aerial survey.

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We believe these findings demonstrate that a yearly aerial survey is not necessary, and is merely a time consuming way of acquiring redundant data. Instead, we propose that the aerial survey be conducted only when the need for it is demonstrated by one of the following criteria:

- (a) If severance in the breakwater is observed by "walkdown" inspections. These walkdowns shall be required prior to the initiation of the photographic survey.
- (b) If there is any substantial difference in the distance measured between fixed camera locations and the stations along the Main Breakwater for two consecutive years.

In this way, the aerial photograph will serve as a verification of existing adverse conditions, whether such conditions exist in the structure or the surveying technique, and will use the aerial photography in its most productive way. Should such an aerial photograph be taken at anytime in the future, we will use the 1981 record as a basis for comparison.

We do not believe this change will reduce the effectiveness of our surveys to ensure the structural integrity of the breakwater. We do believe, however, that this method will remove the most burdensome portion of the survey, and thereby allow the monitoring program to be conducted in a more expeditious fashion.

We currently plan to conduct the annual survey in April. Please apprise us if this proposal is acceptable so that we may incorporate it into the survey.

We appreciate your attention to this proposal. Should you require further information concerning this submittal, please contact us.

Very truly yours,

W D Harrington