March 9, 2001

Ms. Mary Elizabeth Lampert, Chair
Duxbury Nuclear Advisory Committee
148 Washington Street
Duxbury, MA 02332

Dear Ms. Lampert:

I am responding to your letter to Chairman Richard Meserve of the Nuclear Regulatory Commission (NRC), dated January 31, 2001, in which you asserted that there is a problem with the environmental control stations for the radiological environmental monitoring program at nuclear power plants, including the Pilgrim Nuclear Power Station (Pilgrim). We understand that your concern is that the environmental control stations are located within the Emergency Planning Zone (EPZ).

Licensees establish a pre-operational and operational radiological environmental monitoring program to provide data on measurable levels of radiation and radioactive materials in the site environs. This program is intended to supplement the radiological effluent monitoring program by verifying the effectiveness of in-plant measures used for controlling the release of radioactive materials. The NRC set forth an example of an acceptable minimum radiological monitoring program in our 1979 NRC Branch Technical Position (BTP), "An Acceptable Radiological Environmental Monitoring Program" (enclosed). The BTP included criteria for the establishment of control stations to measure background radiation levels and for the location of the control stations.

The preoperational radiological environmental monitoring program documents the background radiation levels and variations that exist in the environment around the proposed plant. The control station locations were established based on the preoperational radiological environmental program. The BTP states that control stations should be established to measure background radiation for airborne, gaseous, waterborne, and ingestion pathways. The BTP criteria for the placement of the control stations is that they are to be "15-30 km (10-20 miles) distant and in the least prevalent wind direction." The BTP further states that if it is not practical to establish control locations in accordance with the distance and wind direction criteria, other sites which provide valid background data may be substituted.

We understand that your position is that control stations should be sited well outside of the EPZ so that they are clearly outside the influence of the nuclear power plant they monitor. This is not consistent with the goal of the BTP which is to locate control stations such that they are close enough to the plant to provide background radiation levels relevant to the plant site, but not so close as to be directly impacted by radioactive effluents from the plant. The control stations you have identified as being within the EPZ are all measuring liquid release pathways. For aquatic control stations for liquid effluent pathways, the distance required to ensure there is no impact from plant effluents is less than for airborne pathways due to the greater mass and dilution potential afforded by the ocean. Therefore, the distance criteria for the location of control stations is more flexible for liquid than airborne control stations (i.e., liquid control stations can be closer and still not be impacted by the plant). As noted earlier, control stations are located such that they are close enough to the plant to provide background radiation levels

relevant to the plant site, but not so close as to be directly impacted by radioactive effluents from the plant. Measurements to date from all control stations, have rarely, if ever, been above the minimum detectable concentrations as defined in NUREG-0473, “Radiological Effluent Technical Specifications,” and therefore there is reasonable evidence that the control stations are not influenced by the plant.

The results of our inspections of the Pilgrim effluent and environmental monitoring program, as well as the inspections conducted at other nuclear plant sites have not to date revealed any reasons for changing the location of the control stations at Pilgrim or any other site.

I trust I have addressed your concern. I thank you for raising your concern with us. If you have any further questions, please contact me.

Sincerely,

/RA/

Samuel J. Collins, Director
Office of Nuclear Reactor Regulation

Enclosure: As stated

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Enclosure: As stated

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