UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

OFFICE OF THE
REGIONAL ADMINISTRATOR

August 30, 2007

Chief, Rules Review and Directives Branch
U.S. Nuclear Regulatory Commission
Mail Stop T6-D59
Washington, DC 20555-0001

Re: Generic Environmental Impact Statement for License Renewal of Nuclear Plants Supplement 29 Regarding the Pilgrim Nuclear Power Station, Final Report (CEQ # 20070325)

Dear Sir/Madam:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act we have reviewed the Nuclear Regulatory Commission's (NRC's) Final Supplemental Environmental Impact Statement (FSEIS) for License Renewal of the Pilgrim Nuclear Power Station (Pilgrim Station) in Plymouth, Massachusetts.

EPA's February 28, 2007 comments on the Draft Supplemental Environmental Impact Statement highlighted areas where additional information was needed to more fully describe the impacts of the Pilgrim Station facility. Our comments recommended that the NRC address the evaluation of alternative modes of facility operation, alternative technologies and mitigation measures, and the environmental impacts of these alternatives, including the alternative of continuing current operations. Environmental impacts discussed in our comments included entrainment and impingement impacts on marine organisms; the impacts of cooling water discharges and thermal backwash operations; and the fish return system. We specifically recommended that the FSEIS evaluate measures such as retrofitting the once-through cooling system with closed-cycle cooling to mitigate adverse impacts identified in the DSEIS such as entrainment and impingement.

We have reviewed the FSEIS with particular attention to new information provided in the report and to the responses to our comments on the DSEIS. Based on our review we have a number of concerns related to the effectiveness of various mitigation measures to address adverse impacts from continued operation of Pilgrim over the relicensing period. Our specific concerns on this and other issues are described in the attachment to this letter. In many instances responses to EPA's comments in the FSEIS are limited and note that the issue at hand is beyond the jurisdiction of the NRC. We recognize that the NRC jurisdiction is limited in certain areas and appreciate NRC's efforts to avoid presenting

conclusions as to whether changes to plant operations and existing permit conditions governing discharges and cooling water intake are necessary to meet the requirements of the Clean Water Act. However, we continue to believe that the NRC has a responsibility under NEPA to provide in the EIS more detailed information to describe the impacts of relicensing, to examine alternative operating modes, technologies, and mitigation measures, and to better inform other permit reviews to follow.

We appreciate the opportunity to comment on the FSEIS. My staff is available to provide additional input, as necessary, to help the NRC further consider and address in the Record of Decision the issues discussed in this letter. Please feel free to contact Timothy Timmermann of the Office of Environmental Review at 617/918-1025 if you wish to discuss these comments further.

Sincerely,

Robert W. Varney
Regional Administrator

Attachment

Detailed Comments
Generic Environmental Impact Statement for License Renewal of Nuclear Plants
Supplement 29 Regarding the Pilgrim Nuclear Power Station
Final Report for Comment

Mitigation:

The FSEIS provides a list of various mitigation options to address adverse impacts from Pilgrim operations but without an explanation of the relative effectiveness, engineering feasibility and associated adverse impacts, if any, of each measure. In addition, the FSEIS explains that the analysis of mitigation measures will be the responsibility of the EPA as part of our NPDES review. While it is true that EPA will consider mitigation in conjunction with our NPDES responsibilities, this does not negate NRC's responsibility to provide a robust mitigation analysis in the EIS to demonstrate how adverse environmental impacts can be addressed. In one instance, EPA's comments on the DEIS recommended that the analysis of alternatives (and consequently mitigation measures) "...be expanded to include an evaluation of a retrofit of the existing Pilgrim Station facility to closed-cycle cooling." In response, the FSEIS indicates that "USEPA Region 1 has not issued any guidance regarding potential requirements for retro-fit of PNPS to closed-cycle cooling. In the absence of requirements or guidance, NRC has determined that retro-fitting PNPS to closed-cycle cooling is not a reasonably foreseeable action and has not included this option in Chapter 8, Alternatives." However, the FSEIS does not demonstrate why closed-cycle cooling is not a reasonable alternative to address under NEPA in the EIS; and EPA specifically asked for this information to inform the NEPA process and to determine if the project could be operated in a less environmentally damaging manner over the relicensing period. The FSEIS further responds to EPA's DSEIS comment by stating that "closed-cycle cooling is addressed in Chapter 4 as part of the potential mitigation measures associated with the PNPS cooling system." However, Chapter 4 only includes a one-paragraph general description of closed-cycle system technology, and states that NRC has not addressed its applicability to PNPS (pages 4-42 and 4-39, respectively). We continue to believe that the EIS should have analyzed a closed-cycle retrofit at PNPS as both an alternative and mitigation measure, and we specifically requested the information to inform EPA's NPDES process that will follow the NRC's NEPA review.

We also believe that the EIS should have included more information about how the fish return system could be modified to reduce impacts and that an analysis of a biological surveillance program should have been presented. While the NRC has stated that it does not have the authority to impose these measures as part of the relicensing process, it does have the authority under NEPA to present information in the EIS relevant to the facility's impacts from ongoing operation.

Entrainment and Impingement:

We appreciate that in response to one of EPA's comments on the DSEIS the FSEIS (Section 4.1.1.4) no longer includes a sentence we were concerned about which

concluded "that the impact of entrainment on marine aquatic species other than the winter flounder population would be minor". However, we remain concerned about how the FSEIS addresses the impact of entrainment. For example, Section 4.8.1 (FSEIS, p. 4-76) states that "With the exception of winter flounder and rainbow smelt, most of the fish stocks potentially affected by PNPS are considered to be healthy or the levels of take by PNPS are *very* minimal," (emphasis added) but does not provide data to support this conclusion. There is no evidence suggesting that the impact of impingement and entrainment by PNPS on all species except winter flounder and rainbow smelt is minimal. In fact, the FSEIS Appendices (FSEIS page E-135) contradict this statement by indicating that the continued operation of the Pilgrim Station cooling water system would have a "substantial adverse effect on EFH for 7 species" in the vicinity of Pilgrim Station.

Our comments on the DSEIS recommended that the FSEIS include a more comprehensive evaluation of the effectiveness and engineering feasibility of measures to mitigate for entrainment impacts, including retrofitting the once-through cooling water system with closed-cycle cooling technology. As noted above, the FSEIS does not provide such an evaluation. While EPA recognizes the limit of NRC's regulatory authority, we continue to believe that the presentation of information relating to mitigation technologies at PNPS is not beyond the scope of the NRC's NEPA responsibilities.

Similarly, we continue to believe that the EIS should have explored the potential effectiveness of mitigation measures to address impingement impacts at Pilgrim. In addition, we do not agree with the statement in the FSEIS (page 4-29) that "[g]enerally, the smaller the amount of time an organism is impinged on a screen, the lower its probability of survival." This statement is contradicted later in the same paragraph by stating that "[l]ower impingement survival rates would be expected in the 30-minute samples as organisms may be impinged on the screen for a longer time prior to being washed into the sluiceway." Also, we note that, in this same paragraph, it would have been helpful if the presentation of data had included a clearer explanation for the sampling methodology differences between 30-minute and 60-minute samples.

Automated Chlorine Monitoring System

The FSEIS does not address our DSEIS comments on the screen wash dechlorination system and no specific assessment is provided of the benefit that a monitoring system with a malfunction notification component would achieve other than to say that the current system results in minimal impacts so any modifications to the system will result in little gain. At minimum, we believe the FSEIS should have provided an analysis that supports this conclusion.

Cooling Water Bypass Flow

In response to an EPA comment on the DSEIS, the FSEIS states that NRC staff continues to consider the cooling water bypass flow as a potential mitigation measure for entrainment impacts. As we stated in the DSEIS comments, we do not agree. First,

ichthyoplankton withdrawn from the source water bypassing the condensers are still subjected to sheer stress from the circulation water pumps. Second, these early life stages are then exposed to direct chlorination, which is toxic to marine organisms. Third, while ichthyoplankton are spared the thermal stress within the condensers, they are nevertheless deposited into the discharge canal where there is a pronounced temperature rise. Furthermore, the total heat load from the plant, using this scenario, is unchanged, providing no benefits to the receiving water. If the plant requires less condenser cooling water, then the overall volume of water used should be reduced by that amount (e.g., use of variable speed pumps), rather than withdrawing the equivalent amount of water and having some portion bypass the condensers.

Winter Flounder Stocking Program

In response to EPA's DSEIS comment on the winter flounder stocking program, the FSEIS indicates that NRC staff agree with EPA's comment, and specifically states that "[d]ata contained within these results [of the winter flounder stocking program] were not sufficient to determine whether a larger-scale hatchery program would benefit the local winter flounder population or the community." However, in contradiction to this conclusion, the FSEIS (page 4-43) contains the same assertion as did the DSEIS without supporting explanation that "[i]f expanded, this stocking program may have a beneficial impact on the local winter flounder population." We recommend that the NRC clarify which is its position, and if it is as stated on page 4-43 and not as stated in its response to comments, then the clarification should include data which explains the basis for the position.