

April 14, 2003

The Honorable Joseph I. Lieberman
United States Senate
Washington, DC 20510

Dear Senator Lieberman:

I am responding to your letter to former Chairman Meserve dated February 14, 2003, which forwarded a letter from your constituent, Gertrud Birk, expressing concerns about Millstone Power Station (Millstone). You requested that the U.S. Nuclear Regulatory Commission (NRC) provide you with information that addresses the issues raised by your constituent.

Ms. Birk's letter expressed concerns in general terms, and on February 26, 2003, a member of the NRC staff contacted her by telephone to better understand her specific concerns. Ms. Birk stated during the call that, in the event of an emergency at Millstone, she does not believe an evacuation would be effective because the roads are already congested in normal traffic conditions. She is against the proposed extension of Connecticut Route 11, in part because she believes it would not alleviate road congestion if an evacuation was necessary. She stated that it has been proposed that Homeland Security funding be used to build the Route 11 extension because it could be used as an evacuation route. She believes those funds should be used for other purposes such as increased security for Millstone. In addition, she is concerned about the general safety of Millstone due to the age of the facility and its past operating history.

The following provides information addressing the issues that your constituent has raised.

Emergency Planning and Preparedness

Following the accident at Three Mile Island in 1979, the NRC reexamined the role of emergency planning for protection of the public in the vicinity of nuclear power plants. Our reexamination revealed the need for improved planning by Federal, State and local governments for responding to possible reactor accidents. To compel this improvement, we implemented new regulations that established emergency planning standards and defined the responsibilities of nuclear power plant licensees, and State and local organizations involved in emergency response. The regulations now require that emergency plans be prepared for evacuation or other actions to protect the public in the vicinity of nuclear power plants.

For planning purposes, we have defined a plume exposure pathway emergency planning zone (EPZ) covering an area about 10 miles in all directions around nuclear power plants, and an ingestion pathway EPZ covering about 50 miles in all directions around nuclear power plants. Each licensee has its own emergency plan for the specific site of the plant, and State and local governments have detailed emergency plans for the offsite plume and ingestion EPZs. These emergency plans are tested in frequent small-scale drills and periodic full-scale emergency exercises that simulate a serious reactor accident. The plans and their implementation are periodically reviewed to confirm that plans and preparedness are being maintained in a manner that will ensure that adequate protective measures can and will be taken to protect the public in the unlikely event of a radiological emergency.

Federal oversight of radiological emergency planning and preparedness involves both the Federal Emergency Management Agency (FEMA) and the NRC. Consistent with President Carter's directive in December 1979, FEMA takes the lead in initially reviewing and assessing offsite planning and response, and in assisting State and local governments in the development and maintenance of their plans and preparedness. The NRC reviews and assesses the licensee's onsite planning and response. FEMA makes findings and determinations on the adequacy and capability of implementing offsite plans and communicates those findings and determinations to the NRC. The NRC makes onsite findings and reviews the FEMA findings and determinations. The NRC then makes a determination on the overall state of emergency preparedness. These overall findings and determinations are used by the NRC to make radiological health and safety decisions before the issuance of licenses and in the continuing oversight of operating nuclear power plants. Periodic reviews and exercises serve to ensure that plans and preparedness are maintained and that changing circumstances are appropriately taken into account in planning.

NRC regulations require that the operator of a nuclear power plant provide an analysis of the time required to evacuate and take other protective actions within the plume exposure pathway EPZ. This analysis is called the evacuation time estimate (ETE). While there are no preset minimum evacuation times that a plant site must meet, the NRC expects the ETE for a site to be a reasonably accurate reflection of the time it would take to evacuate the site environs under normal and adverse conditions. ETEs do not reflect the ability of the population to be evacuated prior to receiving a specified radiation dose. ETEs are primarily used to identify potential traffic bottlenecks so that appropriate traffic control plans can be developed. ETEs are also used by decisionmakers in determining whether evacuation or sheltering might be appropriate in a given area based on the expected timing and duration of a release of radioactive material.

Nuclear power plant licensees are expected to review and revise the ETEs for their sites. The revised ETEs take into account changes in population, road capabilities, potential traffic impediments, and other pertinent factors. On August 1, 2001, the NRC issued Regulatory Issue Summary (RIS) 2001-16, "Update of Evacuation Time Estimates," to all holders of operating licenses for nuclear power plants. In this RIS, the NRC alerted licensees of the possible need to update ETEs as a result of the 2000 census. The ETEs in the current revision of the emergency plan for Millstone are based on the 2000 census data and the existing evacuation routes (i.e., it is not based on potential new roadways such as the proposed extension of Route 11).

On May 1, 2002, FEMA conducted an exercise in the plume exposure pathway EPZ around Millstone. The purpose of the exercise was to assess the level of State and local preparedness in responding to a radiological emergency. FEMA's report dated July 31, 2002, stated that no deficiencies were identified as a result of the exercise. FEMA defines a deficiency as "an observed or identified inadequacy of organization performance in an exercise that could cause a finding that off-site emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a nuclear power plant." The report also stated that seven areas requiring corrective action (ARCAs) were identified, two of which were corrected during the exercise. FEMA defines an ARCA as "an observed or identified inadequacy of organization performance in an exercise that is not considered, by itself, to adversely impact public health and safety."

The NRC evaluated the performance of the Millstone emergency response organization during the May 1, 2002, exercise, as described in an inspection report dated June 7, 2002. No findings of significance were identified during this inspection.

FEMA has found that the current offsite radiological emergency response plans and preparedness for Millstone provide reasonable assurance that appropriate measures can be taken offsite to protect the health and safety of the public in the event of a radiological emergency at the site. The concerns raised by your constituent regarding the proposed extension of Route 11 are not under NRC purview and would be best addressed by State and local officials.

Nuclear Plant Security

Nuclear power plants are robust structures operated with safety and security as primary considerations. Even before the terrorist attacks on September 11, 2001, nuclear power plants were among the best defended and most hardened facilities of the Nation's critical infrastructure. Since September 11, 2001, nuclear power plant security has been further enhanced. Immediately after the attacks, the NRC advised the licensees of all nuclear power plants to go to the highest level of security. The NRC's licensees have remained at a heightened level of security since that time.

The NRC issued numerous advisories to its licensees after September 11, 2001, to strengthen the licensees' capabilities and readiness to respond to potential attacks on their facilities. Some of the specific voluntary measures implemented by the licensees in response to the advisories included increased patrols, augmented security forces and capabilities, additional security posts, installation of additional physical barriers, vehicle checks at greater stand-off distances, enhanced coordination with law enforcement and military authorities, and more restrictive site access controls for all personnel. In light of the continuing elevated threat environment, the NRC concluded that it was appropriate to impose certain interim safeguards and security compensatory measures as legally binding requirements upon the 104 nuclear power plants licensed to operate. Therefore, on February 25, 2002, the NRC issued Orders that modified the operating licenses for each of these facilities to require compliance with the specified interim compensatory measures. Some of the Orders' requirements formalize measures specified in the advisories, while other requirements provide additional security enhancements which have emerged from an ongoing comprehensive safeguards and security program reevaluation. The requirements will remain in effect until the NRC determines that the level of threat has diminished or that other security changes are needed.

Since the unprecedented events of September 11, 2001, the NRC has sought to ensure the continued adequate protection of the Nation's nuclear power plants. The NRC has worked in close coordination with other Federal agencies (including FEMA, the Department of Defense, the Department of Homeland Security, the Department of Energy, the Federal Bureau of Investigation, and the Federal Aviation Administration), as well as with State governments, and the nuclear industry. We believe the enhancements described above and the NRC's continuing oversight provide assurance of the continued safe operation of commercial nuclear facilities, including Millstone, in the current threat environment.

Plant Aging and License Renewal

The NRC issues an initial operating license to a nuclear power plant after making a determination that the design, construction, and proposed operation of the facility satisfy the NRC's requirements and provide reasonable assurance of adequate protection to the public health and safety and common defense and security. The initial operating license granted to a nuclear power plant by the NRC is limited to a term of not more than 40 years after its date of issuance. The licenses for Millstone Unit 2 and 3 are currently scheduled to expire on July 31, 2015, and November 25, 2025, respectively. Millstone Unit 1 was permanently shut down on November 4, 1995.

Age-related degradation (e.g., corrosion, wear) of nuclear power plant systems, structures, and components (SSCs) is the result of physical processes and is a natural consequence of plant operation. All commercial nuclear power plants in the U.S. have extensive requirements for testing, inspection, maintenance, and performance and condition monitoring of important SSCs. These activities ensure that age-related degradation will be detected or mitigated and that corrective action will be taken, as needed, to ensure that the important SSCs will continue to perform their intended functions throughout the life of the plant.

The NRC has established a license renewal process that allows the operating licenses to be renewed for an additional 20 years beyond the original 40-year license period. By letter dated March 5, 2002, Dominion Nuclear Connecticut, Inc., the licensee for Millstone, notified the NRC that it is considering renewing the licenses for Millstone Units 2 and 3. The license renewal request is anticipated to be submitted to the NRC in the first quarter of 2004. Since license renewal will result in operation of the plant SSCs beyond the 40-year period assumed in the original plant licensing and design basis, additional analyses and/or actions may be necessary (e.g., new licensee programs to inspect for age-related degradation of SSCs) to ensure that an acceptable level of safety is maintained during the period of extended operation.

Public participation is an important part of the license renewal process. The public may participate in the process by attending public meetings and by providing comments on documents related to the process. In addition, members of the public have an opportunity to request a formal hearing if they would be adversely affected by the issuance of the renewed license. Further information on the license renewal process can be found on the NRC Web site at <http://www.nrc.gov/reactors/operating/licensing/renewal.html>.

Millstone Operating History

As discussed previously, Millstone Unit 1 was permanently shut down on November 4, 1995, and Millstone Units 2 and 3 are currently operating.

The licensee has performed limited decontamination and dismantlement of Unit 1 and plans to leave the remaining portions of this unit in a safe storage condition until the Unit 2 operating license expires. The licensee's current plans call for dismantling the remaining portions of Unit 1 when they dismantle Unit 2. During a period of safe storage prior to being dismantled, a nuclear facility is left intact with no fuel in the reactor vessel and no radioactive liquid in the systems or components. Radioactive decay of any activated plant components occurs during the safe storage period, reducing the quantity of contaminated and radioactive material that

must be disposed of during decontamination and dismantlement.

The NRC authorized Millstone Units 2 and 3 to resume power operation in 1999 and 1998, respectively, after an extended shutdown to evaluate concerns about safety, management, and safety-conscious work environment. For several years in the 1990's, the NRC was concerned about the performance of the Millstone plants. In 1996, we issued two Orders requiring the then-licensee, Northeast Nuclear Energy Company (NNECO), and its co-licensees to address our concerns. During this period, U.S. Government agencies repeatedly investigated Millstone and fined NNECO unprecedented sums. We established a special oversight organization in the NRC Region I office and at NRC headquarters to oversee the licensee's progress in correcting the management and technical problems our inspectors had discovered. We lifted the Orders only after determining that the terms of the Orders had been carried out. Members of the public had the opportunity to address the Commission directly during an April 14, 1999, briefing of the Commission on the readiness of Millstone Unit 2 to restart.

Although the licensee is ultimately responsible for the continued safe operation of Millstone, the NRC maintains its regulatory oversight consistent with the NRC Reactor Oversight Process (ROP). The ROP baseline inspection program includes the efforts of resident inspectors stationed at the Millstone site and region-based specialists. During 2002, more than 10,000 hours of inspection-related activities were completed at Millstone Units 2 and 3. The NRC's annual assessment of Millstone, as documented in an NRC letter dated March 3, 2003, concluded that the licensee has operated Millstone Units 2 and 3 in a manner that preserved public health and safety. Plant performance information for Millstone Units 2 and 3 and the other operating U.S. nuclear power plants can be found on the NRC Web site at <http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/index.html>.

I hope this information is useful in addressing your constituent's concerns. If you have any questions or need further information, please do not hesitate to contact me.

Sincerely,

/RA by Carl J. Paperiello Acting For/

William D. Travers
Executive Director
for Operations

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