The Honorable Susan M. Collins
United States Senate
Washington, DC 20510-1904

December 17, 1999

Dear Senator Collins:

I am responding to the letter you sent to Dennis K. Rathbun of the U.S. Nuclear Regulatory Commission (NRC) on November 15, 1999, in which you requested information on concerns raised by one of your constituents, Robert Breheny, regarding the Year 2000 (Y2K) readiness of U.S. nuclear power plants and Y2K issues in Maine.

I am pleased to inform you that as of November 4, 1999, plant licensees have reported that all nuclear power plants are Y2K ready. This readiness includes contingency plans for the Y2K transition. The safe operation of the nuclear power plants is expected to contribute to a stable and reliable grid during the Y2K transition.

As background information, over the past several years the NRC staff has been working with nuclear industry organizations and licensees to address Y2K issues. We continue to maintain an appropriately aggressive regulatory framework for overseeing Y2K readiness efforts at all nuclear power plants. These activities, as summarized in the enclosure, provide an integrated and comprehensive approach for addressing Y2K issues. Additional Y2K information on all operating nuclear power plants is available at NRC's Web site, which is located at <http://www.nrc.gov/NRC/NEWS/year2000.html>. This Web site identifies Y2K resources and has Y2K information on all operating nuclear power plants, including press releases, periodic reports, and other related information.

Mr. Breheny wanted to know what is being done about the Y2K issue at nuclear power plants in Maine. The only nuclear power plant located in Maine is Maine Yankee, which was permanently shutdown on December 6, 1996 and is undergoing decommissioning. All fuel has been removed from the reactor. As discussed herein, the Maine Yankee licensee is addressing Y2K issues.

The primary health and safety concern at decommissioning plants, such as Maine Yankee, is with storing spent fuel. The concerns in this area relate to providing sufficient cooling and shielding of the spent fuel on site, and maintaining security of the spent fuel. Fission products in the spent fuel radioactively decay, and the heat generated by this decay reduces with time. The licensee cools the spent fuel and maintains the integrity of spent fuel by storing it in a water-filled pool. After 3 years of decay in the Maine Yankee spent fuel pool, the heat load from the spent fuel is significantly reduced. Even if the spent fuel cooling system is not operating, many hours are available for the operator to take mitigative action.

The integrity of the spent fuel is ensured through such programs and systems as safeguards programs, systems to monitor spent fuel pool water temperature, level, and chemistry, and to monitor radiation in the area of the pool. Computers may help licensees control, monitor, and

log various parameters of the required programs and systems. Procedures are available and the plant staff is capable of manual control if needed.

In early 1999, the staff determined that decommissioning plants are addressing Y2K issues. However, to provide added confidence that any Y2K problems would not result in safety concerns, the staff has recently decided to reexamine the Y2K activities at selected decommissioning reactors that have been shut down for less than 5 years. NRC inspectors will review Y2K activities at the Maine Yankee site during the week of December 13, 1999, and the results will be provided in a future inspection report.

Mr. Breheny also raised a question concerning weapons systems. The NRC cannot comment on weapons systems, as we have no jurisdiction over them.

The NRC remains committed to its oversight of the Y2K readiness efforts of nuclear power plant licensees in order to ensure safe operation of these facilities throughout 1999, 2000, and beyond. Please contact me if you have any additional questions on this matter. We are sending a copy of this letter to Mr. Breheny.

Sincerely,

/RA/

William D. Travers
Executive Director
for Operations

Enclosure: Summary of NRC's Y2K Activities and Plant Y2K Readiness Status

cc w/encl: R. Breheny

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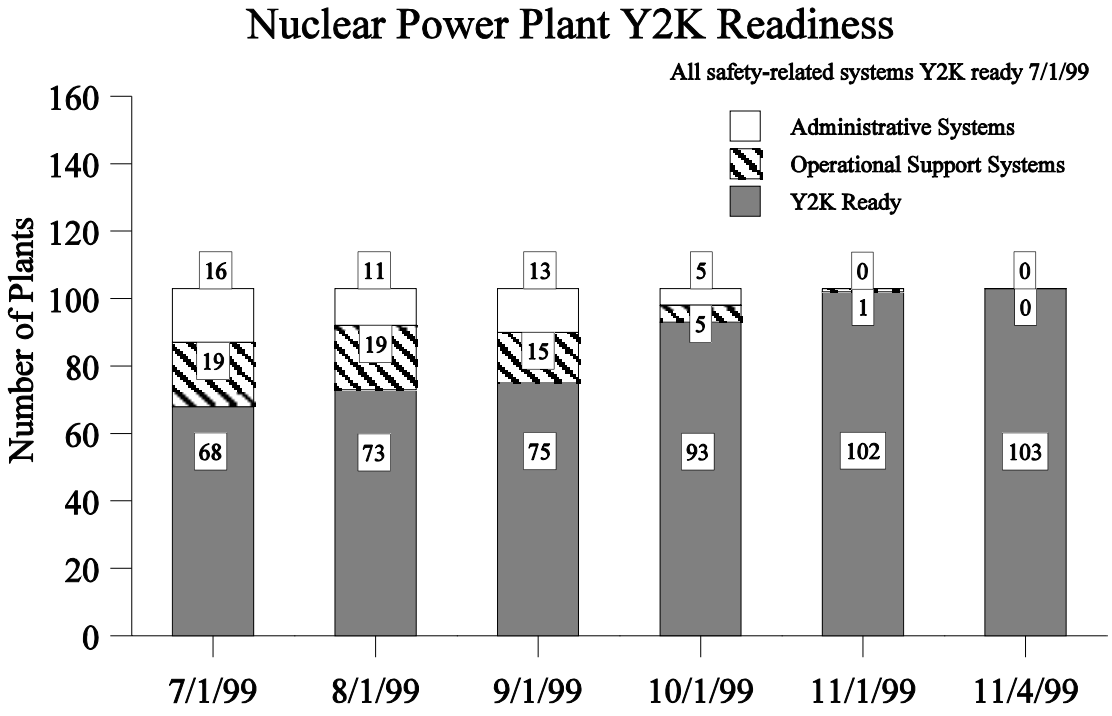
SUMMARY OF NRC's Y2K ACTIVITIES AND PLANT Y2K READINESS STATUS

Since 1996, the NRC has been working with nuclear power plant licensees and the Nuclear Energy Institute (NEI), an industry organization, to ensure plant systems are "Year 2000 ready" before the Year 2000 (Y2K). To ensure that potential Y2K issues are identified and corrected, the NRC issued Information Notice (IN) 96-70, "Year 2000 Effect on Computer System Software," on December 24, 1996; Generic Letter (GL) 98-01, "Year 2000 Readiness of Computer Systems at Nuclear Power Plants," on May 11, 1998; and GL 98-01, Supplement 1, "Year 2000 Readiness of Computer Systems at Nuclear Power Plants," on January 14, 1999. IN 96-70 informed all licensees of the potential problems that nuclear facility computer systems and software might encounter during the transition to the new century. In GL 98-01, reference was made to Nuclear Energy Institute/Nuclear Utilities Software Management Group (NEI/NUSMG) 97-07, "Nuclear Utility Year 2000 Readiness," which describes an approach that all licensees have agreed to utilize in addressing the Y2K issues at their facilities. In GL 98-01, the NRC accepted the NEI/NUSMG 97-07 guidance as an appropriate program for nuclear power plant readiness and required that all operating U.S. nuclear power plant licensees submit written responses regarding their facility-specific Y2K readiness programs by July 1, 1999. Licensees that were not ready were requested to submit their schedule for completing their Y2K activities. Supplement 1 to GL 98-01 expanded the scope of the reporting requirements to include the systems that are necessary for continued plant operation and that are not covered by the terms and conditions of the plant's license and NRC regulations.

By July 1, 1999, licensees for all 103 operating nuclear power plants had reported the status of their Y2K readiness to the NRC. Regarding NRC's highest priority—the uninterrupted performance of plant safety systems—all nuclear power plants reported that their efforts were complete and that no remaining Y2K-related problems existed that could directly affect the performance of safety systems or the capability for safe shutdown. Sixty-eight of these plants had also completed the next order of priority as of July 1, stating that all of their computer systems that support plant operation were "Y2K ready." The remaining 35 plants reported that, to be fully Y2K ready, they still had additional work to complete on a few non-safety computer systems or devices. Typically, the remaining Y2K work was awaiting a scheduled plant outage or the delivery of a replacement component. In each case, the licensees with work remaining submitted schedules for completing that work. Final reviews were performed at the 35 plants, as well as at Cooper Nuclear Station. Cooper received a final review because, after having reported being Y2K ready on July 1, it discovered a potential Y2K issue that required further resolution.

As of November 4, 1999, the NRC received Y2K readiness status reports from licensees indicating that all 103 nuclear power plants are fully Y2K ready—that is, all plant systems involved with safety, power generation, and plant support are now ready to roll over into the Year 2000 without computer problems. The following chart illustrates plant readiness:

ENCLOSURE



One of a number of initiatives undertaken by the NRC staff to verify and assess the effectiveness of licensee Y2K readiness programs was the conduct of the following 12 sample audits of licensee Y2K readiness programs:

DATE	PLANT	LOCATION
September 1998	Monticello	Minnesota
	Seabrook	New Hampshire
October 1998	Brunswick	North Carolina
	Hope Creek	New Jersey
	Davis-Besse	Ohio
November 1998	Wolf Creek	Kansas
	Watts Bar	Tennessee
	Limerick	Pennsylvania
December 1998	Waterford	Louisiana
January 1999	Braidwood	Illinois
	North Anna	Virginia
	WNP-2	Washington

The NRC staff determined that this approach was an appropriate means of oversight of licensee Y2K readiness efforts because all licensees had committed to the nuclear power industry's Y2K readiness guidance (NEI/NUSMG 97-07) in their first response to NRC GL 98-01 and because the NRC staff had not found any Y2K problems in safety-related actuation systems. The sample of 12 licensees included large utilities, such as Commonwealth Edison and Tennessee Valley Authority, as well as small single-unit licensees, such as North Atlantic Energy (Seabrook) and Wolf Creek Nuclear Operating Corporation. Because licensee Y2K

programs are corporate-wide, many of the NRC staff audits encompassed more than a single nuclear power plant site because many utilities own more than one nuclear power plant. In all, 42 of 103 operating nuclear power plant units were associated with the Y2K readiness program audits of 12 utilities. The NRC staff selected a variety of types of plants of different ages and locations in this sample in order to obtain the necessary assurance that nuclear power industry Y2K readiness programs were being effectively implemented and that licensees would be on schedule to meet the readiness target date of July 1, 1999, established in GL 98-01. In late January 1999, the NRC staff completed the 12 audits. On the basis of the audit findings, the staff concluded that the audited licensees were in the process of effectively addressing Y2K issues and were undertaking the actions necessary to achieve Y2K readiness in accordance with the GL 98-01 target date. These findings are consistent with those reported by the Department of Energy in a report prepared by the North American Electric Reliability Council on the status of Y2K readiness of the electric power grid.

In an effort to verify and assess the effectiveness of licensee contingency planning, in May and June 1999, NRC audit teams conducted additional comprehensive audits focused on the area of Y2K contingency planning at the following six sites:

Diablo Canyon 1 and 2	Duane Arnold
Indian Point 2	Oconee 1, 2, and 3
Palo Verde 1, 2, and 3	Turkey Point 3 and 4

The auditors reviewed internal facility risks, external risks, individual component/system contingency planning, and integrated contingency planning against industry guidelines of NEI/NUSMG 98-07, “Nuclear Utility Year 2000 Readiness Contingency Planning.” As indicated in our audit reports, all six of these plants are acceptably implementing the staff-approved industry guidelines.

In addition to the NRC staff activities previously mentioned, regional NRC inspectors reviewed plant-specific Y2K program implementation and contingency activities at all nuclear power plant facilities. The inspectors used guidance (Temporary Instruction [TI] 2515/141) prepared by the NRC headquarters staff that conducted the 12 sample audits and the 6 contingency planning audits. On the basis of the reviews, the staff found that licensees were implementing Y2K programs in accordance with staff-approved industry guidelines.

In September 1999, the NRC issued NUREG-1706, “Year 2000 Readiness in U.S. Nuclear Power Plants,” to present the results of the NRC-conducted onsite reviews of licensee Y2K programs at the 103 nuclear power plants, additional staff assessment of followup reviews of 14 plants, and updated information relating to plant-specific reviews.

After receipt of the July readiness reports and schedules, the NRC monitored progress at those plants that still had remaining work to be performed so as to provide independent verification of the completion of the remaining items, including Y2K contingency plans that specify procedures for dealing with unexpected events. As stated in NRC Press Release No. 99-168, dated August 6, 1999, the staff developed guidance for appropriate regulatory actions to be taken for those facilities that were not Y2K ready by July 1, 1999. As stated in a later press release (No. 99-207) dated September 28, 1999, the NRC sent letters to those utilities with nuclear power plants that were scheduled to be Y2K ready after September 30, 1999, to verify the status of readiness and the dates when plants will be fully Y2K ready. (As noted above, all of these plants are now Y2K ready.)

Since September 1998, the staff has provided periodic status reports to the Commission and the public (via the NRC Web site) describing its efforts in this area and the progress of nuclear power plant licensees on addressing the Y2K issue.

NRC will continue to oversee the Y2K issue relating to nuclear power plants for the rest of this year and beyond. We believe that all licensees will be able to operate their plants safely during the transition from 1999 to 2000 and beyond, and we do not believe that significant plant-specific action directed by the NRC to address possible Y2K problems is likely to be needed. The NRC remains committed to its oversight of the nuclear power plant licensee's Y2K readiness efforts in order to ensure safe operation of these facilities.

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