June 22, 1999

FOR: The Commissioners

FROM: William D. Travers /s/
Executive Director for Operations

SUBJECT: POLICY FOR REGULATORY ACTIONS FOR LICENSEES OF NUCLEAR POWER PLANTS THAT HAVE NOT COMPLETED YEAR 2000 READINESS ACTIVITIES

PURPOSE:

To obtain the Commission's approval of a proposed policy for regulatory actions the staff would take for licensees of nuclear power plants that have not completed their year 2000 (Y2K) readiness activities, including remediation and contingency planning, by July 1, 1999. Development of the proposed policy is consistent with commitments made to Congress by the NRC Executive Director for Operations (EDO) in testimony given on February 24, 1999, and by the Chairman in her letter to Congressman Edward J. Markey dated May 3, 1999, which state that the NRC will assess licensees' Y2K preparedness and determine the need for plant-specific regulatory action, up to and including the issuance of shutdown orders.

This policy supplements the agency Y2K contingency plans (SECY-99-134) and the policy on enforcement discretion for Y2K-related issues (SECY-99-135), both provided to the Commission on May 18, 1999.

BACKGROUND:

Pursuant to the Atomic Energy Act of 1954, as amended (AEA), and the Energy Reorganization Act of 1974, the NRC has broad authority to regulate nuclear power facilities as it deems necessary or appropriate in order to protect the public health and safety and the common defense and security. Sections 161b and 161i(3) of the AEA authorize the Commission to issue orders as may be "necessary or desirable to promote the common defense and security or to protect health or minimize danger to life or property" and to issue orders "to govern any activity authorized pursuant to this Act ... in order to protect health and minimize danger to life or property." Section 182 of the AEA requires the Commission to ensure that nuclear facilities operate "in accord with the common defense and security and ... provide adequate protection to the health and safety of the public."

Although the possibility is remote, there may be unanticipated Y2K issues at several generating facilities (both non-nuclear and nuclear) whose cumulative effect could adversely affect the overall grid. Hence, if a Y2K deficiency at a nuclear power reactor were to cause the reactor to trip or experience a transient during the Y2K transition, there could be a detrimental effect on the grid. This, in turn, could adversely affect the public health and safety and/or the common defense and security of the United States. To address this concern, the Commission may elect, for a plant with identified Y2K deficiencies, to conduct management meetings with a licensee and/or schedule reactive inspections to evaluate the significance of the Y2K deficiencies. Licensees may take voluntary actions to restrict or modify plant operations as a result of Y2K deficiencies, similar to voluntary actions taken by licensees in anticipation of severe weather such as hurricanes(1). Where there may be a lack of reasonable assurance of adequate protection of the public health and safety and the common defense and security, the Commission may order a licensee to take remedial actions, restrict plant operations, and/or shut down the plant in anticipation of the Y2K transition.

DISCUSSION:

Since 1996, the NRC has been working with nuclear power plant licensees to ensure that plant systems are "Y2K-ready" before 2000. In Generic Letter (GL) 98-01, "Year 2000 Readiness of Computer Systems at Nuclear Power Plants," the NRC requested all holders of operating licenses for nuclear power plants to: (1) inform the NRC of steps they are taking to ensure that computer systems will function properly by 2000; and (2) by July 1, 1999, provide a status report with a completion schedule for any remaining effort required for Y2K readiness. All licensees responded to part (1) of the generic letter, stating that they have adopted an NRC-accepted industry program that examines both safety-related and non-safety-related systems and components, and that the program is being implemented to ensure that plants are Y2K-ready by 2000.

Supplement 1 to GL 98-01 was issued by NRC in January 1999, and provides an alternative to part (2) of the generic letter. The alternative request for information, which is voluntary, expands 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. Utilities that choose this option will report on plant Y2K readiness for systems within their license and NRC regulations plus all those systems required for continued plant operation.

In July 1999, the staff will review all licensee responses to GL 98-01 and its supplement and will appropriately follow up any responses that raise concerns. By September 30, 1999, the NRC staff will determine the need for regulatory action to address Y2K readiness issues at specific licensees. At this time, the staff believes that all licensees will be able to operate their plants safely during the transition from 1999 to 2000 and does not believe that significant plant-specific action directed by the NRC is likely to be needed.

On the basis of current staff and industry projections, it is anticipated that about 80 percent of all plants will be Y2K-ready by July 1, 1999, and that the remaining plants will only have a few issues to resolve to be Y2K-ready. It is further expected that of those plants that are not Y2K-ready by July 1, 1999, about half will be ready by September 30, 1999, and the remaining half will have completed Y2K readiness activities by November 30, 1999. Individual plant readiness delays are expected to involve only a few components or systems. Typical delays may be due to awaiting the delivery of a replacement component or a scheduled outage to implement a repair. Hence, it is considered unlikely that any plants will have Y2K deficiencies after November 30, 1999.

Licensees of plants with a projected completion date by September 30, 1999, will be monitored to ensure that the schedules are maintained. Completion of plant-specific items identified by licensees in the generic letter responses will be documented in routine NRC inspection reports. No additional Y2K-oversight is planned unless site-specific issues arise that indicate further scrutiny would be advisable or changes in completion dates delay plant Y2K readiness beyond September 30, 1999.

The licensees of the remaining plants (estimated to be about 10 units) will receive additional scrutiny on a case-by-case basis to ensure that no Y2K deficiencies remain after November 30, 1999. Each plant will be grouped according to the status of contingency planning and the following types and functions of systems and components that are not Y2K-ready:

(A) Plants with systems and components that are not Y2K-ready and whose direct, on-line functioning is required for nuclear safety and protection of the reactor, including safe reactor shutdown and mitigation of design basis events (for example, systems covered by license conditions, including technical specifications). Plants without completed contingency plans for these systems and components will also be included in this category.

(B) Plants (not included in Category A) with systems and components that are not Y2K-ready and that are not directly required for nuclear safety and reactor protection, but that could cause a reactor to trip or experience a transient, or could have an adverse effect on the operation of reactor safety systems. Plants without completed contingency plans for these systems and components will also be included in this category.

(C) Plants (not included in Category A or B) with other systems and components that are not Y2K-ready and/or have incomplete contingency plans for these systems and components (for example, administrative systems).

The licensee of any plant in Category A or B that has not completed Y2K readiness activities by November 30, 1999, will be subject to additional NRC regulatory action which may include issuance of an order requiring specific actions. The NRC staff will evaluate the licensee's assessment of any adverse impact on nuclear safety and reactor protection, including the potential for a transient or plant trip during the Y2K transition. The NRC staff will also evaluate the possible impact on public health and safety and common defense and security, considering the potential concern associated with operation during the Y2K transition. The staff will then conduct a thorough assessment of the likelihood that the licensee will be able to remediate the Y2K deficiencies so that the plant will be Y2K-ready before the end of December 1999, and determine the potential impact of unremediated deficiencies.

If the staff concludes that the likelihood of completing remedial actions prior to the Y2K transition is questionable and the consequences of unremediated deficiencies are substantial, then the staff will prepare orders, as determined by the Director of the Office of Nuclear Reactor Regulation (NRR) (or his designee) with concurrence from the appropriate regional administrator (or his designee), up to and including a plant shutdown, sufficiently in advance of the Y2K transition to ensure that the plant is in a stable, safe condition during the Y2K transition. Although considered unlikely, a licensee may be ordered to take specific actions or to shut down the plant even though all regulatory requirements may be met. The Commission will be consulted prior to the issuance of any order regarding Y2K matters.

Subsequent to a Y2K-related shutdown, each plant startup decision and lifting of an order will be based on an NRC staff review of the licensee's assessment that all Y2K-related operational issues necessitating a plant shutdown have been satisfactorily addressed.

Licensees of plants in Category C may receive additional regulatory oversight as determined on a case-by-case basis by the NRC staff. This oversight could be in the form of management discussions and/or meetings, additional audits, or requests for additional information. No orders affecting plant operations would be considered because Y2K deficiencies in systems or components that place a plant in this category would not be expected to affect nuclear safety or grid stability or reliability.

RESOURCES:

The resources required to implement the attached Y2K readiness activities are included in the resource estimate for the NRC "Contingency Plan for the Year 2000 Issue in the Nuclear Industry," and in the offices' approved budgets.

COORDINATION:

The Office of the General Counsel has no legal objection to this paper. The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections to it. The Office of the Chief Information Officer has reviewed this paper and has no information technology or information management concerns.

RECOMMENDATION:

The staff recommends that the Commission approve the attached policy for staff action for nuclear power plants that have not completed Y2K readiness activities by July 1, 1999. The staff further recommends that the Commission authorize the staff to publicly release this policy before July 1, 1999. The staff will not release this policy until directed to do so by the Commission.

Notes:

1. This policy will become effective upon approval by the Commission and will be in effect through January 31, 2000.

2. This policy does not contain information collection requirements that are subject to the Paperwork Reduction Act.

3. The staff has determined that this is not a "major" rule as defined in the Small Business Regulatory Enforcement Fairness Act of 1996, 5 U.S.C. 804(2).

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Attachment: Policy for Regulatory Action for Licensees of Nuclear Power Plants That Have Not Completed Year 2000 Readiness Activities by July 1, 1999

ATTACHMENT

POLICY FOR REGULATORY ACTION FOR LICENSEES OF NUCLEAR POWER PLANTS THAT HAVE NOT COMPLETED YEAR 2000 READINESS ACTIVITIES BY JULY 1, 1999

1. INTRODUCTION

The Commission has approved the following policy for the NRC staff to follow to determine appropriate regulatory action for licensees of nuclear power plants that have not completed Year 2000 (Y2K) readiness activities, including formulation and implementation of contingency plans, by July 1, 1999. This policy supplements the agency Y2K contingency plans (SECY-99-134) and the policy on enforcement discretion for Y2K-related issues (SECY-99-135), both provided to the Commission on May 18, 1999.

2. BACKGROUND

Since 1996, the NRC has been working with nuclear power plant licensees to ensure that plant systems are "Y2K-ready" before 2000. In Generic Letter (GL) 98-01, "Year 2000 Readiness of Computer Systems at Nuclear Power Plants," the NRC requested all holders of operating licenses for nuclear power plants to: (1) inform the NRC of steps they are taking to ensure that computer systems will function properly by 2000; and (2) by July 1, 1999, provide a status report with a completion schedule for any remaining effort required for Y2K readiness. All licensees responded to part (1) of the generic letter, stating that they have adopted an NRC-accepted industry program that examines both safety-related and non-safety-related systems and components, and that the program is being implemented to ensure that plants are Y2K-ready by 2000.

Supplement 1 to GL 98-01 was issued by NRC in January 1999, and provides an alternative to part (2) of the generic letter. The alternative request for information, which is voluntary, expands 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. Utilities that choose this option will report on plant Y2K readiness for systems within their license and NRC regulations plus all those systems required for continued plant operation.

In July 1999, the staff will review all licensee responses to GL 98-01 and its supplement and will appropriately follow up any responses that raise concerns. By September 30, 1999, the NRC staff will determine the need for regulatory action to address Y2K readiness issues at specific licensees. At this time, the staff believes that all licensees will be able to operate their plants safely during the transition from 1999 to 2000 and does not believe that significant plant-specific action directed by the NRC is likely to be needed.

3. REGULATORY BASIS

Pursuant to the Atomic Energy Act of 1954, as amended (AEA), and the Energy Reorganization Act of 1974, the NRC has broad authority to regulate nuclear power facilities as it deems necessary or appropriate in order to protect the public health and safety and the common defense and security. Sections 161b and 161i(3) of the AEA authorize the Commission to issue orders as may be "necessary or desirable to promote the common defense and security or to protect health or minimize danger to life or property" and to issue orders "to govern any activity authorized pursuant to this Act ... in order to protect health and minimize danger to life or property." Section 182 of the AEA requires the Commission to ensure that nuclear facilities operate "in accord with the common defense and security and ... provide adequate protection to the health and safety of the public."

Although the possibility is remote, there may be unanticipated Y2K issues at several generating facilities (both non-nuclear and nuclear) whose cumulative effect could adversely affect the overall grid. Hence, if a Y2K deficiency at a nuclear power reactor were to cause the reactor to trip or

experience a transient during the Y2K transition, there could be a detrimental effect on the grid. This, in turn, could adversely affect the public health and safety and/or the common defense and security of the United States. To address this concern, the Commission may elect, for a plant with identified Y2K deficiencies, to conduct management meetings with a licensee and/or schedule reactive inspections to evaluate the significance of the Y2K deficiencies. Licensees may take voluntary actions to restrict or modify plant operations as a result of Y2K deficiencies, similar to voluntary actions taken by licensees in anticipation of severe weather such as hurricanes[(2)]. Where there may be a lack of reasonable assurance of adequate protection of the public health and safety and the common defense and security, the Commission may order a licensee to take remedial actions, restrict plant operations, and/or shut down the plant in anticipation of the Y2K transition.

4. REGULATORY POLICY

All licensees' generic letter responses and NRC audit reports related to plant-specific Y2K programs (including the results of the NRC inspector Y2K reviews currently being conducted at all operating power reactors) will be reviewed to determine which licensees have not completed their Y2K readiness activities and contingency plans. This review will include determining which systems or components are not Y2K-ready or compliant, the extent of the remaining work, and the schedule for completion of work.

On the basis of current staff and industry projections, it is anticipated that about 80 percent of all plants will be Y2K-ready by July 1, 1999, and that the remaining plants will only have a few issues to resolve to be Y2K-ready. It is further expected that of those plants that are not Y2K-ready by July 1, 1999, about half will be ready by September 30, 1999, and the remaining half will be completed by November 30, 1999.

4.1 LICENSEES OF PLANTS THAT COMPLETE Y2K PROGRAM ACTIVITIES BY JULY 1, 1999

Licensees that report they have completed their Y2K readiness activities, including remediation and contingency planning, by July 1, 1999, will not undergo additional Y2K-related inspection.

4.2 LICENSEES OF PLANTS THAT COMPLETE Y2K PROGRAM ACTIVITIES BY SEPTEMBER 30, 1999

Licensees of plants (not included in Section 4.1) with a projected completion date by September 30, 1999, will be monitored to ensure that the schedules are maintained. Staff confirmation of the completion of plant-specific items identified by licensees in the generic letter responses will be documented in routine NRC inspection reports. No additional Y2K-oversight is planned unless site-specific issues arise that indicate further scrutiny would be advisable or changes in completion dates delay plant Y2K readiness beyond September 30, 1999.

4.3 ALL OTHER LICENSEES

The remaining licensees of plants (estimated to be about 10 units) will receive additional scrutiny on a case-by-case basis to ensure that no Y2K deficiencies remain after November 30, 1999. Each plant will be grouped according to the status of contingency planning and the following types and functions of systems and components that are not Y2K-ready:

(A) Plants with systems and components that are not Y2K-ready and whose direct, on-line functioning is required for nuclear safety and protection of the reactor, including safe reactor shutdown and mitigation of design basis events (for example, systems covered by license conditions, including technical specifications). Plants without completed contingency plans for these systems and components will also be included in this category.

(B) Plants (not included in Category A) with systems and components that are not Y2K-ready and that are not directly required for nuclear safety and reactor protection but that could cause a reactor to trip or experience a transient, or could have an adverse effect on the operation of reactor safety systems. Plants without completed contingency plans for these systems and components will also be included in this category.

(C) Plants (not included in Category A or B) with other systems and components that are not Y2K-ready and/or have incomplete contingency plans for these systems and components (for example, administrative systems).

The licensee of any plant in Category A or B that has not completed Y2K readiness activities by November 30, 1999, will be subject to additional NRC regulatory action which may include issuance of an order requiring specific actions. The NRC staff will evaluate the licensee's assessment of any adverse impact on nuclear safety and reactor protection, including the potential for a transient or plant trip during the Y2K transition. The NRC staff will also evaluate the possible impact on public health and safety and common defense and security, considering the potential concern associated with operation during the Y2K transition. The staff will then conduct a thorough assessment of the likelihood that the licensee will be able to remediate the Y2K deficiencies so that the plant will be Y2K-ready before the end of December 1999, and determine the potential impact of unremediated deficiencies.

If the staff concludes that the likelihood of completing remedial actions prior to the Y2K transition is questionable and the consequences of unremediated deficiencies are substantial, then the staff will prepare orders, as determined by the Director of the Office of Nuclear Reactor Regulation (NRR) (or his designee) with concurrence from the appropriate regional administrator (or his designee), up to and including a plant shutdown, sufficiently in advance of the Y2K transition to ensure that the plant is in a stable, safe condition during the Y2K transition. Although considered unlikely, a licensee may be ordered to take specific actions or to shut down the plant even though all regulatory requirements may be met. The Commission will be consulted prior to the issuance of any order regarding Y2K matters.

Subsequent to a Y2K-related shutdown, each plant startup decision and lifting of an order will be based on an NRC staff review of the licensee's assessment that all Y2K-related operational issues necessitating a plant shutdown have been satisfactorily addressed.

Licensees of plants in Category C may receive additional regulatory oversight as determined on a case-by-case basis by the NRC staff. This oversight could be in the form of management discussions and/or meetings, additional audits, or requests for additional information. No orders affecting plant operations would be considered because Y2K deficiencies in systems or components that place a plant in this category would not be expected to affect

nuclear safety or grid stability or reliability.

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1. For example, plants subject to hurricanes, such as Turkey Point on the Florida coast and Brunswick on the North Carolina coast, have procedures that require the units to be shut down in anticipation of hurricane-force winds, even though all regulatory requirements may be met.

2. For example, plants subject to hurricanes, such as Turkey Point on the Florida coast and Brunswick on the North Carolina coast, have procedures that require the units to be shut down in anticipation of hurricane-force winds, even though all regulatory requirements may be met.