

MEMORANDUM TO: Chairman Meserve  
Commissioner Dicus  
Commissioner Diaz  
Commissioner McGaffigan  
Commissioner Merrifield  
February 11, 2000

FROM: William D. Travers **/RA by Frank J. Miraglia Acting For/**  
Executive Director for Operations

SUBJECT: STAFF PLANS CONCERNING THE FEDERAL RESPONSE TO  
THE YEAR 2000 ISSUE DURING THE FEBRUARY 28 TO  
MARCH 1, 2000, PERIOD

Among the potential problems associated with the Year 2000 (Y2K) is a computing problem associated with the leap year day, February 29, 2000. Attached is the proposed plan for the NRC response to the "leap day" problem. As with the Y2K transition, the White House Information Coordination Center (ICC) has established a staffing schedule for the leap day response. The attached plan addresses NRC staffing requirements to support the national response. This plan provides an effective and efficient response posture which relies, to the maximum extent possible, upon the normal incident response readiness of the NRC.

Attachment: As stated

cc:  
SECY  
OGC  
OCA  
OPA  
CIO  
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Contact: F. Congel, IRO  
301-415-7476

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## PROPOSED STAFF PLANS TO ADDRESS THE "LEAP DAY" PROBLEM

### Background:

One of the Y2K computer-related problems is the date-discontinuity problem that potentially could occur at the end of February 28, 2000. Date discontinuity happens when the date, as expressed by the computer system, does not successfully advance during the transition from one particular day to the next. There is a special case associated with the fact that the year 2000 is a leap year. The rules for determining whether a year is a leap year were established by Pope Gregory XIII in 1582, when he modified the Julian Calendar. The rules are:

- Years divisible by four **are** leap years, unless...
- They are also divisible by 100, in which case they **are not** leap years, except...
- Years that are divisible by 400 **are** leap years.

Unfortunately some computer programmers were only aware of the first two rules and assumed that 2000 is not a leap year. Thus, some systems and software applications may be incorrectly programmed with respect to leap-year considerations and have the potential to fail during the transition on February 28- 29 - March 1, 2000 and on December 30- 31, 2000 - January 1, 2001.

### Potential impact on NRC licensees:

The Y2K leap-year problem, like other date-discontinuity problems, potentially initiates in any of the many layers which make up software-based systems. The initiators are clocks, operating systems, software modules, libraries, tools, and application software. Any or all these mechanisms are in real-time computer systems and have the potential to fail in different ways. However, like the minor date-discontinuity failures that occurred during the transition from 1999 to 2000, the failures are unlikely to affect the functioning of any systems or embedded components or the ability for operators to obtain information about parameters being monitored.

### Steps that industry has taken to address the issue:

NEI/NUSMG 97-07, the guidance document upon which the Y2K readiness programs of all operating nuclear power plants (NPPs) are based, specifically requires testing for leap year, (December 31, 2000) and leap day (February 29, 2000). All licensees have included this leap-year related testing as part of the plant-specific Y2K readiness program implementation. Additionally, all operating NPPs have implemented plant-specific contingency plans for the critical Y2K leap year date of February 29, 2000, should unexpected failures occur.

In response to GL 98-03, all ten of the major fuel cycle facilities reported that they were Y2K Ready. Minor Y2K problems occurred at two fuel cycle facilities after the transition. The reported problems did not compromise safety or safeguards at the two facilities. When asked Y2K questions during routine inspections before the transition, materials licensees reported few challenges preparing for the Y2K transition on December 31, 1999 - January 1, 2000. None of the reported problems involved NRC regulated materials. No Y2K problems have been reported by materials licensees. No Part 21 reports have been made by fuel cycle facilities or materials licensees. No risk-significant Y2K concerns have been identified for NRC regulated material.

### NRC assessment of the issue:

Based on our review of responses from the nuclear power industry and fuel cycle facilities concerning Y2K readiness; our independent inspection efforts at all 103 operating NPPs, 10 major fuel cycle facilities, and materials licensees; and our other regulatory oversight activities; the staff concludes that the Y2K problem will not adversely affect the continued safe operation of NPPs, fuel cycle facilities, and materials licensees during the critical Y2K leap-year dates. All operating NPPs, fuel cycle facilities, and materials licensees successfully passed through the primary Y2K critical date transition of December 31, 1999 - January 1, 2000 and have operated safely to date. We have not identified any Y2K problem that may adversely affect operating NPPs', fuel cycle facilities' or materials licensees' ability to continue safe operation or shut down during the upcoming Y2K leap-day transition.

### Federal government plans for leap year roll over:

Federal agencies are being asked to staff the Information Coordination Center (ICC) Operations Center and Joint Public Information Center (JPIC) on February 28, 29 and March 1 with the same individuals who staffed the ICC during the Y2K transition. Two seven-hour shifts are planned. The first (day) shift runs from 7:00 a.m. until 2:00 p.m. and the second (night) shift runs from 2:00 p.m. until 9:00 p.m.

NRC is under the Energy Sector within the ICC. The Department of Energy, which heads the Energy Sector, does not plan to staff their EOC but will develop the Energy Sector Reports at the ICC. NRC and DOE have coordinated their plans for the leap day rollover, and have worked out a system that will ensure that the Energy Sector status summaries and briefing bullets prepared at the ICC accurately reflect NRC input.

### NRC Plans:

NRC will support staffing at the ICC Operations Center on February 28, 29, and March 1 less. However, because media interest in the leap-day transition is expected to be less than during the Y2K transition, the staff does not see the need to have a senior spokesperson or a public affairs representative in the JPIC. However, the public affairs representatives and a senior spokesperson will be on call and available to report to the JPIC, if the need arises.

During the period that the ICC is staffed, a small IRO team will be available in the NRC Operations Center to support the NRC staff at the ICC and to provide reports to the ICC using the Information Collection and Reporting System (used during the Y2K transition). This team will develop the input to the energy sector report and provide it to the NRC representative in the ICC Operations Center. The team will also ascertain circumstances of any reported plant events during the February 28- March 1 period, and their relation to "leap day" so that the agency can appropriately respond to any inquiries.

Plant status information will be obtained by the Headquarters Operations Officer shortly after midnight local time on (approximately 12:15 - 1:00 a.m., February 29, 2000). The Y2K Early Warning System (YEWS) will be operational during the leap-day transition and NRC plans to use this system, as appropriate, to notify licensees of potential leap-day problems that are reported. Regulators from other countries have been invited to enter information into YEWS

during the leap day transition. However, international participation in this voluntary system is not expected to be as extensive as it was during the Y2K transition.

The staff does not plan to preposition responders in the Regional Incident Response Centers or to require resident inspectors to be on site during off-normal hours. The staff will rely on resident inspector feedback during regularly scheduled hours and on existing reporting requirements (e.g., 10 CFR 50.72) to receive information on computer problems that occur during the leap-day transition. Based on the experience from the Y2K transition, the staff does not plan to make special provisions for responding to requests for enforcement discretion. However, the staff plans to have appropriate NRR and NMSS managers “on-call” in the unlikely event that significant operational or safety concerns arise because of a leap-day problem.

In the extremely unlikely event that a leap-day problem results in a situation that requires an NRC response, the existing NRC incident response procedures will be followed and additional responders will be called in to the Operations Center and appropriate Regional Incident Response Center.