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NRC DENIES THREE PETITIONS FROM NIRS ON YEAR 2000 CONCERNS

The Nuclear Regulatory Commission has denied three petitions for rulemaking from the Nuclear Information Resource Service on “Year 2000" (Y2K) concerns at NRC-licensed nuclear facilities.

In denying the petitions, submitted last December, the NRC agreed that the Y2K issue is significant and acknowledged the importance of the matters raised by petitioners. However, the NRC concluded that actions taken by nuclear plant licensees to address Y2K issues coupled with the NRC’s oversight of these activities provide reasonable assurance of adequate protection of public health and safety. The agency believes that the petitions’ issues are being addressed effectively without the need for new rules.

The first petition requested that all licensed facilities -- nuclear power plants, decommissioned nuclear plants, research reactors, and fuel cycle facilities -- should be shut down by December 1 if their safety systems are not “Y2K compliant” and should remain shut down until all Y2K repairs, modifications, replacements, and testing are completed.

The NRC denied this petition, in large part, based on agency inspections of Y2K program activities at 103 commercial nuclear power plants. The NRC has concluded that the safety systems necessary for the safe operation and safe shutdown of U.S. nuclear plants are Y2K ready.

The “Year 2000" or Y2K problem refers to a computer’s potential inability to recognize dates beginning with January 1, 2000, and beyond. It arises from computer programs that use two-digit numbers to represent a calendar year (such as “98" for 1998). For example, a computer system could read “00" as 1900, rather than 2000, potentially causing a computer system to malfunction. “Y2K compliant” means that a digital system and computer will accurately process date/time data during the Y2K transition from 1999 to 2000. This may require system repairs or replacements. “Y2K ready” means that functions provided by a computer system will be carried out successfully with the coming of the Year 2000.

The second petition for rulemaking requested that NRC require nuclear power plant licensees to conduct a successful, full-scale emergency planning exercise involving the failure of computers or other digital systems as a result of the Y2K problem. A plant would have to shut down by December 1, if the licensee had not conducted such an exercise and would remain shut down until it conducted such an exercise.

The NRC denied this petition because although the cause of computer or digital systems failures may be different under Y2K, the result and expected response from such failures are basically the same as situations encountered and handled effectively during many previous emergency exercises and drills conducted by licensees. In addition, licensees have developed Y2K contingency plans which build on existing contingency plans that deal with a variety of circumstances, such as with the loss of pagers, radios, sirens, meteorology information, satellites, telephones, water and security police and fire-fighting capability. Also, considered in licensee's Y2K contingency planning process is the need for simulated exercises, development of special procedures, and training specific to Y2K contingencies. In October of this year, the NRC, with participation by several utilities, has scheduled a Y2K exercise that will test Y2K contingency plans. For these reasons, the NRC does not see a need to require additional emergency exercises.

The third petition requested NRC to require, during the Y2K transition, that nuclear facilities have operational emergency diesel generators that provide backup power to nuclear facilities; that there be a 60-day supply of fuel for these generators; and that there are alternate means of backup power such as solar panels, wind turbines, hydroelectric power, or biomass power. It also requested that spent fuel pools at nuclear plants have a backup power supply to cool the fuel in case offsite power is lost. Any plants not meeting these requirements would have to shut down.

The NRC agrees that maintaining reliable emergency power is important and considered the petitioner's request as part of NRC's review of existing regulatory requirements and licensee actions to assure reliable emergency power during the Y2K transition. Based on this review, the NRC denied this petition because current regulations require sufficient redundant backup power sources of onsite emergency power, normally provided by multiple emergency diesel generators, capable of supplying the electricity necessary to operate essential safety systems at nuclear power plants. Diesel generators are routinely tested and have demonstrated 98% reliability. In addition, licensees are required under NRC's maintenance rule to monitor the performance of diesel generators. With multiple sources of power, the need for alternate backup sources is not considered necessary to provide reasonable assurance of adequate protection against Y2K-induced problems.

Redundant power sources are not necessary at other facilities, such as decommissioned nuclear power plants, research reactors, and fuel cycle facilities, either because such power is not required to shut down and maintain the facilities in a safe condition, or because adequate measures are already in place to address loss of power. For spent fuel pools, emergency onsite power systems can provide adequate cooling if primary systems are lost. Upon detection of low levels of water in the pools, licensees have plans in place to provide make-up water. Even if no actions were taken immediately, there would be between three days and two weeks for the licensee to make up the water, lost through evaporation, to assure the fuel would remain covered.

The NRC considers the current 7-day fuel supply on site at nuclear power plants to be sufficient to handle operation of diesel generators in the event that offsite power is lost. As part of Y2K preparations, licensees are putting arrangements in place to replenish the fuel supply, if needed. However, Y2K problems are not expected to prolong the duration of a loss of offsite power for longer than that assumed in the licensee's normal emergency plans.

In developing decisions on the NIRS petitions, NRC considered the information provided in the petitions and comments received on the petitions. Based on the nuclear industry's Y2K planning and implementation activities, the oversight provided by the NRC in addressing the Y2K problem at licensed nuclear facilities, and the existing regulations, the agency decided to deny the three petitions.

More details on the NRC's decisions are contained in a staff paper, SECY-99-173, which should be available at: http://www.nrc.gov/NRC/COMMISSION/activities.html. A notice of denial will be published soon in the Federal Register.

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