the Emergency Services Sector Working Group for Y2K, which is headed by FEMA. In addition, to facilitate Agreement State efforts to address the Y2K issue, a link to State Government Year 2000 Web sites has been provided by the NRC. NRC will make every effort to share with the States any Y2K issue that may also affect Agreement States or Agreement State licensees.

NIRS has not explained why the approach currently being pursued by the licensees, the nuclear industry, and NRC does not provide reasonable assurance of adequate emergency response capabilities during the transition from 1999 to 2000.

In the case of research and training/test reactors, licensees of these facilities also have established programs to evaluate and correct Y2K deficiencies. Many research reactors will be shut down on January 1, 2000, as the institutions operating them (e.g., universities and laboratories) will be closed for the holiday. Further, these reactors often have passive safety features and low power levels, which ensure minimal potential offsite consequences. In addition, NRC staff concluded that any research reactor in operation on January 1, 2000, could be readily shut down manually using emergency procedures and existing shutdown systems, even if their operational systems should experience a Y2K problem.

Conclusion

Plant-specific industry planning for Y2K contingencies, which is built upon existing emergency response plans and procedures required by the current emergency preparedness regulations, provides a reasonable assurance that adequate protection measures will be taken in the event of radiological emergency during Y2K critical dates. Imposing a new prescriptive rule as proposed in the petition in an area in which the industry action is already exceeding the actions that address the petitioner's general issues would be counterproductive to the ongoing Y2K readiness efforts of the licensees. Therefore, the additional full-scale emergency planning exercise requested by the NIRS is not necessary to ensure emergency response capabilities to provide reasonable assurance of adequate protection to public health and safety despite the occurrence of Y2K problems.

For these reasons, the Commission denies the petition.

Dated at Rockville, Maryland, this 17th day of August, 1999.

For the Nuclear Regulatory Commission.

Andrew L. Bates,

Acting Secretary of the Commission.

[FR Doc. 99–21751 Filed 8–20–99; 8:45 am]

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NUCLEAR REGULATORY COMMISSION

10 CFR Parts 50 and 70

[Docket No. PRM–50–67]

Nuclear Information and Resource Service; Petition for Rulemaking Denial

AGENCY: Nuclear Regulatory Commission.

ACTION: Petition for rulemaking; denial.

SUMMARY: The Nuclear Regulatory Commission (NRC) is denying a petition for rulemaking (PRM–50–67) from the Nuclear Information and Resource Service (NIRS). The petitioner requested that the NRC amend its regulations to require that nuclear facilities ensure the availability of backup power sources to power safety systems of reactors and other nuclear facilities in the event of a date-sensitive, computer-related incident resulting from a Year 2000 (Y2K) issue. The petitioner requested that NRC take this action to ensure that reliable backup sources of power are available in the event of a Y2K incident. The Commission agrees that maintaining reliable emergency power is important and has considered the petitioners request as part of its review of existing regulatory requirements and licensee actions to assure reliable emergency power during the Y2K transition. Based on this review, the Commission has determined that existing regulatory requirements, actions taken by the licensees to implement a systematic and structured Y2K readiness program adequately address Y2K issues, and NRC's oversight of the licensees' implementation of these programs provide reasonable assurance of adequate protection to public health and safety. Because the Commission has concluded that existing programs already address the petitioner's concern regarding availability of emergency power, the petition is denied.

ADDRESSES: Copies of the petition for rulemaking, the public comments received, and NRC's letters to the petitioners are available for public inspection or copying in NRC Public Document Room, 2120 L Street, NW (Lower Level), Washington, DC, as well as on NRC's rulemaking web site at http://ruleforum.llnl.gov.

FOR FURTHER INFORMATION CONTACT: Matthew Chiramal, Office of Nuclear Reactor Regulation, US Nuclear Regulatory Commission, Washington, DC 20555–0001, telephone 301–415–2845, E-mail address mxc@nrc.gov, or Gary W. Purdy, Office of Nuclear Material Safety and Safeguards, US Nuclear Regulatory Commission, Washington, DC 20555–0001, telephone 301–415–7897, E-mail address gwp1@nrc.gov.

SUPPLEMENTARY INFORMATION:

Background

NRC received three related petitions for rulemaking (PRM–50–65, PRM–50–66, PRM–50–67), each dated December 10, 1998, submitted by the NIRS concerning various aspects of Y2K issues and nuclear safety. This petition (PRM–50–67) requested that NRC adopt regulations that would require facilities licensed by NRC under 10 CFR parts 50 and 70 to provide reliable sources of backup power. The first petition (PRM–50–65) requested that NRC adopt regulations that would require facilities licensed by NRC under 10 CFR parts 30, 40, 50, and 70 to be Y2K compliant. The second petition (PRM–50–66) requested that NRC adopt regulations that would require facilities licensed by NRC under 10 CFR part 50 to develop and implement adequate contingency and emergency plans to address potential system failures. Because of the nature of these petitions and the date-specific issues they address, the petitioner requested that the petitions be addressed on an expedited schedule.

On January 25, 1999, NRC published a notice of receipt of a petition for rulemaking in the **Federal Register** (64 FR 3789). It was available on NRC's rulemaking website and in the NRC Public Document Room. The notice of receipt of a petition for rulemaking invited interested persons to submit comments by February 24, 1999.

The Petition

The petitioner requested that NRC adopt the following text as a rule:

The Nuclear Regulatory Commission recognizes that date-sensitive computer programs, embedded chips, and other electronic systems that perform a major role in distributing, allocating, and ensuring electric power throughout the United States may be prone to failure beginning on January 1, 2000. Loss of all alternating current electricity from both the offsite power grid and onsite emergency generators (commonly known as ''station blackout'') long has been identified by NRC as among the most prominent contributors to risk for atomic reactors.

(1) For these reasons, NRC requires of part 50 and 70 licensees as of December 1, 1999:

(a) that all emergency diesel generators that provide backup power to nuclear licensees must be operational and remain operational; (b) that licensees that cannot demonstrate full operational capabilities of all emergency diesel generators must close until such time that full operational capabilities of emergency diesel generators are attained; (c) that all licensees must have a 60-day supply of fuel for emergency diesel generators.

(2) Further, to ensure adequate protection of public health and safety, NRC requires that all licensees under these sections must provide alternate means of backup power sufficient to assure safety. These may include, but are not limited to: solar power panels, wind turbines, hydroelectric power, biomass power, and other means of generating electricity. These additional backup systems must provide electricity directly to the licensee rather than to the broader electrical grid.

(3) Irradiated fuel pools are to be immediately classified as Class 1–E; backup power systems must be sufficient to provide cooling for such pools. Licensees which cannot demonstrate compliance with sections (1) and (2) must cease operations as of December 1, 1999, until compliance with these sections is attained.

The petitioner acknowledged that NRC has recognized the potential safety and environmental problems that could result if date-sensitive electronic systems fail to operate or provide false information. The petitioner asserted that NRC has required its licensees of reactor and major fuel cycle facilities to report by July 1, 1999, on their programs to ensure compliance with Y2K issues.

The petitioner discussed the ''availability of electricity to power atomic reactor and other nuclear facility safety systems.'' The petitioner explained that electricity is required to operate atomic reactor safety and cooling systems and that this electricity is provided by offsite sources (overall an electrical grid). The petitioner commented that NRC has long recognized that the loss of all alternating current from both onsite and offsite systems, known generally as ''station blackout,'' is the most important contributor to risk at most atomic reactors. The petitioner correctly noted that NRC has required licensees to have backup sources of onsite emergency power, normally multiple emergency diesel generators, capable of supplying the electricity necessary to operate essential safety systems.

The petitioner asserted that the emergency diesel generators (EDGs) used at atomic reactors have proven unreliable and are often out of service. The petitioner claimed that the unprecedented condition posed by the Y2K problem, coupled with the demonstrated and ongoing failures of EDGs, constitutes reasonable doubt that EDGs can be relied on. Therefore, the petitioner believes that NRC should adopt regulations that require that licensees have all EDGs operational during the Y2K transition, that they have a 60-day supply of fuel as of December 1, 1999, and that licensed facilities that cannot meet these requirements be closed.

The petitioner discussed the likelihood and the potential consequences of a failure of all or a portion of the electric power grid in the United States. The petitioner recognized that the failure of all or a portion of the electrical grid as a result of Y2K issues is well beyond the scope of NRC's authority. However, the petitioner stated that the extended failure of all or a portion of the electrical grid would place severe stress on the current EDG system of backup power supply and that the failure of EDGs at one or more reactor sites could result in extended station blackouts and nuclear catastrophes. The petitioner asserted that this possibility is well within the range of probabilities for which NRC routinely requires action by its licensees. The petitioner further asserted that reliance on unreliable EDGs is insufficient under these conditions. Therefore, the petitioner believes that it is essential that NRC take the regulatory action suggested in this petition on an expedited basis.

Public Comments on the Petition

In response to the petition, NRC received 73 comment letters, which included 1 letter signed by 25 citizens of the State of Michigan, 3 letters from nuclear associated industries, 10 letters from utilities, 14 letters from private organizations, and 45 letters from private citizens.

Fifty-six letters supported the petition, of which 41 were from private citizens, 14 were from private organizations, including 1 from the NIRS and 1 signed by 25 individuals. The comments supporting the petition addressed the concern that diesel generators are unreliable and that a reliable electric power grid is needed.

In some of the letters supporting the petition, the authors included the following additional comments that provide information or requested action that was not contained in the petition. These comments noted that—

1. Y2K may increase the possibility of local, regional or widespread blackouts. Losing all electric power to the station is called station blackout. EDGs, each capable of powering the entire plant, compensate for the loss of off-site electric power. Reliability of diesel generators is considerably lower than required and, moreover, one of two diesel generators is often out of service. Therefore, for Y2K, an additional source of backup power needs to be provided, and both EDGs should be operable with sufficient fuel on site to compensate for fuel delivery problems.

2. In order to ensure that sufficient electric power is available during an extended loss of offsite power to safely shut down a nuclear plant and cool the spent fuel pool, enough diesel fuel should be available at the site for periods extending from 60 days to 160 days to whatever the time period that offsite power is not available.

3. An additional power source or method should be available during power failure to provide makeup water to the spent fuel pool.

4. On at least one occasion, a nuclear power plant licensee falsified data relative to the reliability of EDGs. The concern is that other nuclear utilities may not provide reliable data for their EDGs to NRC. These comments are addressed specifically in the discussion of ''Reasons for Denial.''

Seventeen letters opposed the petition, including 4 from private citizens, 3 from nuclear associated industries, and 10 from utilities. Comments opposing the petition stated that onsite emergency electric power generators are already required to be maintained in a state of readiness and validated by periodic testing, fuel supplies are maintained at a level adequate to facilitate appropriate response/recovery actions, and the current regulations and license conditions are adequate to address the issue. One commenter used a specific facility as an example to demonstrate that in the highly unlikely event of a total loss of electrical power (meaning the loss of the electric grid and backup power) the conditions at that facility would not threaten public health and safety. Any potential adverse impacts would be limited to work areas and equipment within the facility, and there would be no catastrophic or significant loss of control or containment of nuclear material. That commenter indicated that the provision of a tertiary (meaning a secondary backup) source of electric power to its fuel facility, which would be independent of the broader electric grid, as would be required under PRM–50–67, is an unreasonable requirement that would force shutdown of the facility on December 1, 1999, in the absence of any significant credible safety risk.

Reasons for Denial

NRC is denying the petition because the Commission has determined that

current NRC regulations and license conditions governing power systems at part 50 and 70 facilities provide reasonable assurance of adequate protection to public health and safety, and licensees are taking appropriate actions to provide reasonable assurance that Y2K problems will not adversely affect the functioning of these power systems. The NRC is reviewing the licensees' implementation of these Y2K activities and will have sufficient time to take appropriate regulatory action if licensees' Y2K activities and programs are not properly implemented in a timely fashion. NIRS does not explain why the licensees' Y2K activities and programs, and NRC's oversight of the licensees' implementation of these activities and programs, are inadequate such that the rule proposed by NIRS is necessary to provide reasonable assurance of adequate protection from Y2K-induced unavailability of onsite power systems.

NIRS' proposed rule contained three separate requirements for Part 50 and Part 70 licensees: (1) Operational demonstration of EDGs and provision of a 60-day diesel fuel supply; (2) alternate means of backup power; and (3) classification of fuel pools as Class 1–E. Facilities that cannot demonstrate compliance with these requirements by December 1, 1999, would be required to shut down until they could demonstrate compliance. The proposed requirements are addressed below for part 50 power reactors, part 50 decommissioning reactors, part 50 non-power reactors, and part 70 licensees in Sections I, II, III, and IV, respectively.

I. Part 50 Nuclear Power Plants

A. Diesel Generator Operational Capability and Sixty-Day Fuel Supply

Nuclear power plants must be protected against loss of offsite power (LOOP) by providing an onsite backup power system by either 10 CFR part 50, Appendix A, General Design Criteria (GDCs) 17 and 18, or equivalent requirements in the plant's licensing basis. Most licensees rely upon diesel generators to provide onsite backup power, although there is at least one licensee that relies upon hydroelectric power. All licensees have committed to provide an onsite supply of fuel to operate diesel generators; most commitments are for a 7-day supply. In addition, nuclear power plants are required by 10 CFR 50.63 to have the capability to withstand loss of all ac power (generally referred to as ''station blackout'' [SBO]) for an established period of time. As indicated in Section I.A.2 there is no reason to believe that Y2K would significantly affect the probability or duration of a LOOP and/or a SBO from that otherwise assessed in a licensee's coping analysis required by 10 CFR 50.63. To demonstrate that their plants can cope with SBO, some licensees rely upon an alternate ac power source(s) (separate from the backup power system) that utilizes diesel generators or gas turbine generators.

1. EDG Reliability

NIRS claims that EDGs have proven to be unreliable, such that licensees should be required to demonstrate ''full operational capability'' [1] of EDGs that provide backup power. As previously noted, backup onsite power is usually provided by diesel generators, which supply electric power to the plant safety systems upon a LOOP. NRC regulations require that onsite electric power supplies and the onsite electric distribution system have sufficient independence, redundancy, and testability to perform their safety functions assuming a single failure. Furthermore, in accordance with their license conditions, all licensees are required to have backup electricity sources operational to supply safety-related equipment at all times independent of circumstances such as Y2K-induced LOOP. The operation and maintenance of diesel generators and other safety-related equipment necessary for the safe shutdown of the reactor are controlled by the plant technical specifications (TSs). The TSs are intended to ensure that sufficient power will be available to supply safety-related equipment at all times regardless of key Y2K dates. Moreover, the plant TSs require that immediate action be taken to restore inoperable diesel generators to operable status. The plant TSs require the diesel generators to be tested routinely in order to demonstrate their operability and their ability to supply power as needed.

NIRS did not present any information demonstrating that diesel generators are unreliable such that they should not be relied upon to provide backup power upon a LOOP. For each nuclear power plant, selected target diesel generator reliability values were established for plant-specific coping analysis in accordance with the requirements of 10 CFR 50.63, the SBO rule. Availability and reliability values are tracked by each licensee in accordance with the requirements of 10 CFR 50.65, the maintenance rule, and associated industry guidance.

In the resolution of Generic Safety Issue B–56, ''Diesel Generator Reliability,'' one of the options recommended by NRC staff was to revise the SBO rule to include specific requirements for demonstrating diesel generator reliability. However, in SECY–93–044, ''Resolution of Generic Safety Issue B–56, Diesel Generator Reliability,'' dated March 25, 1993, the Commission disapproved the revision to the SBO rule on the basis of the real progress made by the nuclear industry in improving the reliability of the diesel generators. NRC requirements and industry activities have resulted in a very high diesel generator reliability. In 1993, the industry-wide average reliability of diesel generators was in excess of 98 percent. An Idaho National Engineering Laboratory study (INEL–95–0035, ''Emergency Diesel Generator Power System Reliability: 1987–1993'') of a number of nuclear power EDG reliability concluded that those plants with a 0.950 reliability target goal were actually demonstrating 0.987, and the plants with a 0.975 reliability target goal were actually demonstrating 0.985. The Commission stated that the industry should continue an aggressive program of maintenance as well as root cause analysis that will continue to offer assurance that diesel generator reliability will be maintained at a satisfactory level in the future.

All licensees have implemented a maintenance monitoring program consistent with the maintenance rule, which became effective on July 10, 1996. Licensees are required to monitor the performance of diesel generators against the established goals and to take appropriate corrective actions if the goals are not met. The maintenance rule requires that these goals be evaluated by the licensees at least every refueling cycle, not to exceed 2 years. To evaluate the process established by licensees to set goals and monitor them, and to verify that preventive maintenance has been effective for systems and components under the maintenance rule, NRC staff conducted baseline inspections of all nuclear plants during 1996–1998. At several plants, diesel generators were among the systems and components reviewed to verify that goals were established and monitoring and trending were being performed. For pilot plants, diesel generators continue to be inspected and evaluated using the risk-informed, performance-based inspection process, which is part of the

[1] The NRC assumes that by ''capability,'' NIRS actually means ''reliability'' because ''capability'' normally refers to the ability of the emergency power system to power safety related electrical loads at the plant; whereas reliability normally refers to the actual performance of the system in terms of availability, which is what NIRS addresses in its petition.

NRC Oversight Baseline Inspection Program. NRC staff will continue to assess the reliability of diesel generators at nuclear power plants to ensure that the reliability of diesel generators is maintained at levels specified by each licensee when it performed its plant-specific coping analyses for SBO.

Additionally, the scope of licensees' Y2K programs, including contingency planning, covers the onsite power and other emergency power systems at the plant. NRC audits and reviews of licensee Y2K program activities to date have verified licensee consideration of these systems, and no associated Y2K issue relating to onsite power systems have been identified.

The NRC does not believe, on the basis of current information from the North American Electric Reliability Council (NERC),[2] that availability of offsite power from the electrical grid is likely to be significantly affected by Y2K-induced problems. In its most recent reports issued on January 11 and April 30, 1999, NERC states, ''Transmission outages are expected to be minimal and outages that may occur are anticipated to be mitigated by reduced energy transfers established as part of the contingency planning process.'' Both reports indicate that the transition through critical Y2K rollover dates should have a minimal impact on electric systems operations in North America and that widespread, long-term loss of the grid as a result of Y2K-induced events is not a credible scenario. Therefore, there is no reason to believe that Y2K would significantly affect the probability or duration of a LOOP and/or a SBO from that otherwise assessed in the licensee's coping analysis required by 10 CFR 50.63.

As discussed above, the diesel generators and associated onsite power supply systems, being within the scope of licensees' Y2K readiness programs, will be Y2K ready prior to the Y2K transition, and no decrease in reliability of the diesel generators is expected. The information provided by NERC indicates that the likelihood of a LOOP is not expected to increase significantly during Y2K transition. Based on these considerations, plus the ability of the plants to cope with a station blackout, the likelihood of an event that will jeopardize public health and safety is acceptably low.

One of the public comments received by NRC in response to the petition indicated a concern regarding falsification of EDG reliability data by licensees. This particular concern has been investigated and resolved as documented in an NRC memorandum dated December 20, 1993, from the Office of Investigations to the Region II Regional Administrator, ''Vogtle Electric Generating Plant: Alleged False Statements Regarding Test Results on Emergency Diesel Generators (Case No. 2–90–020R).'' Falsification of EDG failure data by licensees is not considered by NRC as an industry-wide, generic occurrence. Such incidents, when identified, will continue to be treated by NRC on a case-by-case basis and appropriate actions will be taken in response.

2. Sixty-day fuel supply

NIRS' proposed rule would require each nuclear power plant licensee to have a 60-day onsite supply of fuel for diesel generators, as opposed to a 7-day fuel supply to which most licensees have committed. However, NIRS provided no technical basis why offsite power from the grid would not be reestablished within the 7-day period accommodated by existing onsite fuel supplies. Nor did NIRS explain why, should a LOOP continue for longer than 7 days, a licensee would be unable to resupply diesel fuel for a period of 60 days so that a 60-day fuel supply must be maintained onsite. Commenters on the NIRS petition who suggested a requirement for a larger fuel supply (able to accommodate 160 days of operation without resupply) also did not provide any technical bases for their recommendations. As stated previously, the likelihood or duration of a LOOP is not expected to be significantly affected by the Y2K issue.

Furthermore, the NRC licensees are taking appropriate actions to ensure that their plants will be able to cope with Y2K-induced LOOP durations longer than 7 days. As part of each plant's Y2K activities, each licensee is preparing a contingency plan, which includes obtaining diesel fuel and other necessary supplies to cope with Y2K-induced long-term LOOP events. As part of NRC's review of licensees' implementation of their Y2K programs, NRC will confirm that licensee Y2K programs address emergency power sources, arrangements for obtaining critical commodities (e.g., EDG fuel oil) and other considerations for contingency planning identified in Nuclear Energy Institute/Nuclear Utilities Software Management Group (NEI/NUSMG) 98–07, ''Nuclear Utility Year 2000 Readiness Contingency Planning,'' dated August 1998.

The capability of diesel generators and the adequacy of existing fuel supplies have been demonstrated at numerous plants during weather-induced interruptions of the power grid and other cases of LOOP from the grid. An example is the Turkey Point nuclear plant LOOP event during the August 1992 Hurricane Andrew when the diesel generators automatically picked up safety-related loads and maintained the plant for an extended period (over 6 days) during the recovery until site power was restored. NRC considers the current 7-day fuel capacity to be sufficient to operate diesel generators for longer than the time that it takes to replenish the onsite supply from outside sources. Accordingly, a rule requiring licensees to maintain sufficient fuel to operate their diesel generators for a 60-day period or longer is not necessary to provide reasonable assurance of adequate protection against Y2K-induced LOOP events. The regulation requires nuclear power plants to withstand LOOP events regardless of whether the LOOP is due to Y2K or other causes. The petitioner has not demonstrated that Y2K would significantly affect the probability or duration of loss of all alternating current power from that otherwise assumed in the licensee's coping analysis required by 10 CFR 50.63, and the licensees' coping analyses continue to be applicable during the period that NIRS claims would present an increased susceptibility to a LOOP.

B. Additional Alternate Means of Backup Power

NIRS' petition requests NRC to require all licensees to provide an alternate (second) means of backup power, such as solar power panels, wind turbines, hydroelectric power, and biomass power. The petition also requests NRC to require that the alternate backup power system provide electricity directly to the licensee rather than to the broader electrical grid.

1. Need for Additional Backup Power Source

As discussed in Section I.A.1 above, not only must licensees provide a source of backup power upon a LOOP, some licensees have provided an alternate ac power source in order to demonstrate that they are able to cope with a LOOP concurrent with a loss of onsite backup power (an SBO) for a specified duration. Thus, these licensees have three sources of power: (1) Offsite

[2] NERC is an electric industry organization made up of 10 Regional Reliability Councils that account for nearly every bulk electric supply and delivery organization in the interconnections of North America. NERC and its Regional Reliability Councils set operating and engineering standards for the reliability of electric systems in North America. In May 1998, U.S. Department of Energy requested NERC to facilitate the electric industry's Y2K effort.

power from two independent circuits; (2) onsite backup power from independent, redundant power supplies; and (3) alternate ac power. The NRC does not believe that the NIRS' proposal for a fourth source of power (''alternative backup power,'' in the words of NIRS) is necessary to provide reasonable assurance of adequate protection against Y2K-induced problems.

The petitioner does not explain why Y2K would affect diesel generators as a source of backup and/or alternate ac power, such that a source of power *in addition* to diesel generators is necessary to address SBO. The scope of the licensees' Y2K program covers both the onsite backup and the alternate ac power systems at nuclear power plants. Since 1996, NRC has been working with the nuclear industry and licensees of operating nuclear power plants in order to achieve Y2K readiness at all nuclear power plants. NRC has 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.

NRC issued IN 96–70 to alert nuclear power plant licensees of the Y2K problem. The information notice described the potential problems that nuclear power plant computer systems and software may encounter during and following the transition into the year 2000 and how the Y2K issue may affect NRC licensees. IN 96–70 encouraged licensees to examine their uses of computer systems and software well before the year 2000 and suggested that licensees consider appropriate actions for examining and evaluating their computer systems for Y2K vulnerabilities.

In GL 98–01, NRC endorsed the guidance in the industry document issued by the NEI/NUSMG 97–07, ''Nuclear Utility Year 2000 Readiness,'' when properly augmented in the area of risk management, contingency planning, and remediation of embedded systems, as one possible approach in implementing a plant-specific Y2K readiness program. In August 1998, NEI issued an industry document, NEI/NUSMG 98–07, which provided additional guidance in the area of internal and external risk management and contingency planning. External events that should be considered for facility-specific contingency planning include electric grid/transmission/distribution system events (e.g., a LOOP, grid instability and voltage fluctuations, load fluctuations and loss of grid control systems), loss of emergency plan equipment and services, loss of essential services, and depletion of consumables. The NRC considers the guidance in NEI/NUSMG 98–07, when properly implemented, as an acceptable approach to mitigate and manage Y2K-induced events that could occur on Y2K-critical dates.

In GL 98–01, NRC requested that all operating nuclear power plant licensees submit written responses regarding their facility-specific Y2K readiness programs in order to obtain confirmation that licensees are addressing the Y2K problem effectively. All licensees have responded to GL 98–01, stating that they have adopted plant-specific programs that are intended to make the plants Y2K ready by July 1, 1999. GL 98–01 also requests a written response, no later than July 1, 1999, confirming that these facilities are Y2K ready, including contingency planning. Licensees who are not Y2K ready by July 1, 1999, must provide a status report and schedule for the remaining work to ensure timely Y2K readiness.

As part of its oversight of licensee Y2K activities, the NRC staff conducted sample audits of 12 plant-specific Y2K readiness programs. The objectives of the audits were as follows:

1. To assess the effectiveness of licensee programs for achieving Y2K readiness and in addressing compliance with the terms and conditions of their license and NRC regulations and continued safe operation.

2. To evaluate program implementation activities to ensure that licensees are on schedule to achieve Y2K readiness in accordance with GL 98–01 guidelines.

3. To assess the licensee contingency planning for addressing risks associated with events resulting from Y2K problems.

NRC staff determined that this approach was an appropriate means of oversight of licensee Y2K readiness efforts because: (1) All licensees had committed to the nuclear power industry Y2K readiness guidance (NEI/NUSMG 97–07) in their first response to NRC GL 98–01; and (2) the audit would verify that licensees were effectively implementing the guidelines. 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. 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 are being effectively implemented and that licensees are on schedule to meet the readiness target date of July 1, 1999, established in GL 98–01.

In late January 1999, NRC staff completed the 12 audits. On the basis of the audit observations, NRC staff has concluded that licensees are effectively addressing Y2K issues and are undertaking the actions necessary to achieve Y2K readiness in accordance with the GL 98–01 target date, although some plants will have some remediation, testing, and final certification scheduled for the fall 1999 outage. NRC staff did not identify any issues that would prevent these licensees from achieving readiness.

The NRC staff is not aware of any Y2K problems in nuclear power plant systems that directly affect actuation of safety functions, including the emergency onsite power systems. Moreover, NRC audit results to date have not identified any associated residual Y2K problems with the emergency onsite power system and have confirmed the licensees' consideration of these systems. Also, the audits did not identify any Y2K problem in safety-related activation systems.

Additionally, the NRC's regional staff reviewed Y2K activities at all operating nuclear power plants to verify the status of licensee efforts to ensure that all plants will be able to function safely on January 1, 2000, and beyond. These reviews: (1) Verified that all NRC licensees have implemented Y2K program activities; (2) evaluated the progress made to ensure that the licensees are on schedule to achieve Y2K readiness; and (3) assessed licensees' contingency plans for addressing Y2K-related issues. The reviews were completed by July 1999.

The NRC staff audited the contingency planning efforts of six licensee facilities. The audits at these facilities examined in detail backup measures the utilities have in place to deal with possible Y2K problems, either on site or off site, that might affect plant operations. The audits were conducted in May and June 1999.

The reviews and audits will allow NRC staff to verify the progress of all licensees and determine whether any regulatory action is needed. Information from the reviews will be used in conjunction with the status reports that NRC has required its nuclear power plant licensees to provide by July 1, 1999. By July 1, 1999, all licensees responded to GL 98–01, Supplement 1.

The responses indicated that 68 plants are Y2K ready and 35 plants need to complete work on computer systems or devices after July 1, 1999.

NIRS presents no information or argument why these actions by the licensees, the nuclear industry, and NRC are not sufficient to ensure that onsite back up and alternate ac power systems will not be adversely affected by Y2K-induced problems.

2. Specific Backup Power Sources Proposed by NIRS

The petitioner's proposed alternative backup power sources, such as solar and wind, are not reliable backup power sources because of their undependability under unpredictable weather conditions or because they are limited by the amount of power they can generate. Additional comments received by the NRC in response to the petition also suggested the requirement for alternate power. The petitioner does not provide sufficient technical information to demonstrate that these additional alternative backup power sources would add more reliability than current backup power sources. Therefore, most of the sources of alternative backup power that are included in NIRS' proposed rule would not constitute an acceptable alternative source of backup power with the same level of availability and capability as diesel generators.

C. Spent Fuel Pool Class 1E Classification and Backup Power

The proposed rule would require all part 50 licensees to immediately classify irradiated (spent) fuel pools as Class 1–E and provide sufficient backup power to provide cooling to these pools. Because Class 1–E is an electric system classification, the NRC assumes that the petitioner intends the rule to require that the backup power supply for spent fuel pool cooling systems be classified as Class 1–E.

The petitioner does not explain why classification of the electric power system for spent fuel pool cooling systems as Class 1–E is necessary to protect spent fuel pools against a Y2K-induced LOOP. The Class 1–E classification addresses design and quality assurance (QA) requirements for manufacture and installation of electrical system components. Most of these systems are based upon analog controls and, therefore, are not subject to Y2K problems. Furthermore, simple reclassification of the electrical power system by itself would not appear to have any direct effect on minimizing Y2K-induced loss of power necessary for spent fuel cooling. Rather, an evaluation of the power system for Y2K susceptibility is necessary, which is what licensees have committed to implement. Thus, it is unclear how the requested requirements in the NIRS petition would provide assurance that Y2K problems will not prevent electrical power systems from performing their necessary safety functions. The NRC concludes that a rule change is not necessary since licensees are already directly addressing spent fuel pool cooling as part of their Y2K programs.

Furthermore, the NRC does not agree that a backup source of electrical power for spent fuel cooling is necessary at nuclear power plants in order to provide reasonable assurance of adequate protection. At most operating nuclear power plants, the emergency onsite power system can directly supply electric power to its spent fuel pool cooling systems. At those plants at which the spent fuel cooling system is not directly connected to the emergency onsite power system, the capability exists of connecting the cooling system to the emergency onsite power system. Requiring a backup (tertiary) source of electrical power is not justified in view of the length of time between loss of spent fuel cooling and the point at which there is a significant threat to integrity of the spent fuel rods. A licensee is required to keep the spent fuel pool filled to a level more than 23 feet above the top of the fuel rods and, generally, the water temperature in the pool is to be maintained below 140 °f. For a typical pool with a capacity of about 400,000 gallons and a worst case heat load causing 50 gpm of water loss as a result of evaporation, it would take about 3 days for the pool level to drop to the top of the fuel racks. This estimate does not include the heat-up time of 3 to 4 hours for the pool water to increase from 140 °f to 212 °f. This scenario assumes a total loss of all ac electric power and that no corrective actions are taken for 3 days in response to the decreasing water level in the spent fuel pool. For a typical heat load (non-refueling), the time to uncovering of the spent fuel pool would be around 2 weeks, again assuming that no make-up water is added to the pool. Upon loss of water shielding, the radiation levels above the pool would increase. Assuming LOOP and failure of onsite emergency power sources, the only action necessary would be to provide make-up water to the spent fuel pool. The existing plant operating/emergency procedures provide for initiation of make-up water to the pool upon detection of low level. At many plants, the make-up water supply is provided by a plant safety system. Upon loss of all ac power, make-up water from any source, such as fire hoses supplied by diesel-driven fire pumps, can be used to maintain the required water level in the pool. In light of the substantial period of time available for a licensee to take mitigative actions upon loss of spent fuel pool electrical power, the NRC concludes that providing an additional backup source of power is not warranted at any operating nuclear power plant.

II. Part 50 Decommissioning Nuclear Power Plants

There are 21 permanently shutdown nuclear power plants which have been shut down for more than a year. Six of these facilities have removed all spent fuel from the site. Therefore, there are only 15 decommissioning power plants to which the proposed requirements in the petition would potentially apply.

Spent fuel pool cooling and support systems may be configured differently for decommissioning plants than for operating reactors due to the reduced need for decay heat removal at decommissioning plants. As decay heat loads drop, utilities are able under 10 CFR 50.59 to remove equipment from service once it no longer is needed to provide its safety function. At some plants there is no need for forced circulation to remove heat from the pool as adequate heat loss to ambient keeps the pool at an acceptable temperature. After a period of decay in the spent fuel pool, the heat load from spent fuel is significantly reduced as short-lived fission products decay. Consequently, the potential for boiling is reduced and the time available for the licensee to take mitigative action is greater. With the exception of Zion and Big Rock Point, more than three years has elapsed since any fuel was irradiated in the reactor at any of the nuclear power plants currently undergoing decommissioning.

The reasons discussed in Section I.C above regarding why electrical systems need not be classified Class 1-E for spent fuel pools at operating nuclear power plants also apply equally to decommissioning nuclear power plants. As previously noted, requiring a backup source of electrical power is not justified in view of the length of time between loss of spent fuel cooling and the point where there is a significant threat to integrity of the spent fuel rods. Upon loss of all ac power, make-up water from any source, such as fire hoses supplied by diesel-driven fire pumps, can be used to maintain the required water level in the pool.

In view of the long time period available for the licensee to respond to loss of power to the spent fuel pool cooling system and the relative simplicity of mitigative actions, the requirements proposed by NIRS with respect to spent fuel pool electrical system reclassification and the provision of alternative power are not justified.

III. Part 50 Non-Power Reactor Licensees

Non-power reactors operate at power levels ranging from 250 KWt to 2 MWt, and they operate at low temperatures. Any non-power reactor in operation on January 1, 2000, can be readily shut down manually using emergency procedures and existing shutdown systems. These reactors have passive safety features and generally do not require power to shut down and dissipate decay heat. Accordingly, NRC regulations do not currently require part 50 non-power reactors to provide a backup power source.

NIRS did not present any information or rationale why part 50 non-power reactors must provide an ''alternate'' source of backup power to address Y2K losses of power. In particular, NIRS did not address the fact that these facilities are not required to have a backup power source because power is not required to shut down and maintain these facilities in a safe-shutdown condition. In the absence of any rationale in support of the proposed requirement, the Commission concludes that there is no basis for adopting the proposed requirement for part 50 non-power reactor licensees.

IV. Part 70 Licensees

To alert major part 70 licensees of the Y2K problem, NRC issued Information Notice (IN) 96–70 in December 1996, and IN 98–30 in August 1998. In IN 96–70, NRC staff described the potential Y2K problems, encouraged licensees to examine their uses of computer systems and software well before the year 2000, and suggested that licensees consider appropriate actions to examine and evaluate their computer systems for Y2K vulnerabilities. In IN 98–30, NRC staff provided definitions of ''Y2K ready'' and ''Y2K compliant,'' encouraged licensees to contact vendors and test their systems for Y2K problems, and described elements of a Y2K readiness program.

In order to gather Y2K information regarding materials and major fuel cycle facilities, NRC formed a Y2K Team within the Office of Nuclear Material Safety and Safeguards (NMSS) in 1997. From September through December 1997, this NMSS Y2K Team visited a cross-section of materials licensees and fuel cycle facilities and conducted Y2K interviews. Each licensee or facility visited by the team indicated that it was aware of the Y2K issue and was in various stages of implementing its Y2K readiness program.

On June 22, 1998, the NRC staff issued Generic Letter (GL) 98–03, ''NMSS Licensees and Certificate Holders' Year 2000 Readiness Programs,'' requested major part 70 licensees to inform NRC of the status of their Y2K readiness programs. In GL 98–03, the NRC staff requested all major part 70 licensees to submit by September 20, 1998, written responses regarding their facility-specific Y2K readiness program in order to confirm that they were addressing the Y2K problem effectively. All licensees responded to GL 98–03 by stating that they had adopted a facility-specific Y2K readiness program, and the scope of the program included identifying and, where appropriate, remediating embedded systems, and provided for risk management and the development of contingency plans. GL 98–03 also requested a written response, no later than December 31, 1998, which confirmed that these facilities were Y2K ready or provided a status report of work remaining to be done to become Y2K ready, including completion schedules. All licensees provided a second response to GL 98–03, which provided reports of work to be done, including completion schedules. Furthermore, following the second response, NRC requested a third written response, no later than July 1, 1999, which would confirm that these facilities were Y2K ready or would provide an updated status report.

Between September 1997 and October 1998, the major fuel cycle facilities were also asked Y2K questions during other inspections. On the basis of these Y2K inspections, the licensees were aware of the Y2K problem and were adequately addressing Y2K issues. There have been no identified risk-significant Y2K concerns for major part 70 licensees.

NIRS presents no information or argument why these above-mentioned actions by the licensees and NRC are not sufficient to address Y2K problems and provide reasonable assurance of adequate protection during the transition from 1999 to 2000.

EDG Reliability and Fuel Supply

The requirements proposed in the NIRS petition would require that: (1) All EDGs that provide backup power be operational and (2) licensees have a 60-day supply of fuel for EDGs or the facility would be shut down. The petitioner indicated these requirements are necessary to protect public health and safety. However, there are no part 70 licensees required to have EDGs in order to provide backup power to protect public health and safety. In the event of the loss of electric power in part 70 facilities, processing stops and there is no need for electric power to maintain a safe condition. There are some part 70 licensees who have independent power sources in order to meet physical protection (PP) requirements. These licensees are also required to have contingency plans for PP (e.g., augmented guard force) in the event of loss of independent power. Based on the above discussion, the 60-day fuel supply requirement is also not needed for part 70 licensees to provide reasonable assurance of adequate protection to public health and safety.

The petitioner does not provide sufficient technical information to demonstrate that part 70 licensees must shut down if they do not have EDGs providing backup power or must have a 60-day fuel supply for EDGs.

Additional Alternate Means of Backup Power

NIRS asserted that NRC must require licensees to provide alternate means of backup power (e.g., solar power panels, wind turbines, hydroelectric power, biomass power). As stated above, it is not necessary for part 70 licensees to have backup power in order to shutdown to a safe condition. Also, part 70 licensees who are required to have independent power sources to meet PP requirements have contingency plans to meet the loss of the back-up power. Further, the petitioner does not provide sufficient technical information to demonstrate that these alternative back-up power sources are needed to to provide reasonable assurance of adequate protection to public health and safety.

Back-up Power Supply for Spent Fuel Pool Cooling System

The proposed rule in the NIRS petition requests NRC to require that all licensees immediately classify irradiated fuel pools as Class 1–E, and provide sufficient back-up power to provide cooling to these pools. Because Class 1–E is an electric system classification, the NRC staff assumes that the petitioner intends the rule to apply to the back-up power supply for spent fuel pool cooling systems. Although some part 70 licensees have irradiated fuel at their facilities, these facilities do not store large quantities of irradiated fuel. The irradiated fuel is

used for research and development or educational purposes. If the irradiated fuel is stored in a pool, the heat generated from the fuel would be minimal and would not require a pool cooling system.

The petitioner provides no technical justification to support the proposal that spent fuel pools be immediately classified as Class 1–E. The regulatory action requested by NIRS is not required for part 70 licensees.

Conclusion

Existing NRC requirements, licensee commitments, and licensee activities and programs are sufficient to cope with losses of power, including those losses of offsite power that could be caused by Y2K problems. NIRS has not presented any information either that existing requirements and licensee commitments are inadequate to address losses of power due to Y2K problems, such that the requirements proposed in NIRS' petition are necessary to provide reasonable assurance of adequate protection to public health and safety. Accordingly, the Commission denies the petition.

Dated at Rockville, Maryland, this 17th day of August, 1999.

For the Nuclear Regulatory Commission.

Andrew L. Bates,

Acting Secretary of the Commission.

[FR Doc. 99–21752 Filed 8–20–99; 8:45 am]

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NUCLEAR REGULATORY COMMISSION

10 CFR Part 72

RIN 3150–AG 37

List of Approved Spent Fuel Storage Casks: (NAC–MPC) Addition

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) is proposing to amend its regulations to add the NAC International Multi-Purpose Canister (NAC–MPC) cask system to the List of approved spent fuel storage casks. This amendment will allow the holders of power reactor operating licenses to store spent fuel in the NAC–MPC cask system under a general license.

DATES: The comment period expires November 8, 1999. Comments received after this date will be considered if it is practical to do so, but the NRC is able to assure consideration only for comments received on or before this date.

ADDRESSES: Comments may be sent to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001, Attn: Rulemakings and Adjudications Staff. Hand deliver comments to 11555 Rockville Pike, Rockville, MD, between 7:30 a.m. and 4:15 p.m. on Federal workdays.

You may also provide comments via the NRC's interactive rulemaking website (http://ruleforum.llnl.gov). This site provides the availability to upload comments as files (any format) if your web browser supports that function. For information about the interactive rulemaking site, contact Ms. Carol Gallagher (301) 415–5905; e-mail CAG@nrc.gov.

Certain documents related to this rulemaking, including comments received by the NRC, may be examined at the NRC Public Document Room, 2120 L Street NW. (Lower Level), Washington, DC. These documents also may be viewed and downloaded electronically via the interactive rulemaking website established by NRC for this rulemaking.

FOR FURTHER INFORMATION CONTACT: Stan Turel, telephone (301) 415–6234, e-mail, spt@nrc.gov of the Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001.

SUPPLEMENTARY INFORMATION:

Background

Section 218(a) of the Nuclear Waste Policy Act of 1982, as amended (NWPA), requires, ''for the dry storage of spent nuclear fuel at civilian power reactor sites, with the objective of establishing one or more technologies the (Nuclear Regulatory) Commission may, by rule, approve for use at the sites of civilian nuclear power reactors without, to the maximum extent practicable, the need for additional site-specific approvals by the Commission.'' Section 133 of the NWPA states, in part, ''(t)he Commission shall, by rule, establish procedures for the licensing of any technology approved by the Commission under section 218(a) for use at the site of any civilian nuclear power reactor.''

To implement this mandate, the Commission approved dry storage of spent nuclear fuel in NRC-approved casks under a general license, publishing on July 18, 1990, a final rule in 10 CFR part 72 entitled, ''General License for Storage of Spent Fuel at Power Reactor Sites'' (55 FR 29181). This rule also established a new subpart L within 10 CFR part 72 entitled ''Approval of Spent Fuel Storage Casks,'' containing procedures and criteria for obtaining NRC approval of dry storage cask designs.

Discussion

This proposed rule would add the NAC International Multi-Purpose Canister (NAC–MPC) cask system to the list of NRC-approved casks for spent fuel storage in 10 CFR 72.214. Following the procedures specified in 10 CFR 72.230 of Subpart L, NAC International (NAC) submitted an application for NRC approval with the Safety Analysis Report (SAR): ''Safety Analysis Report for the NAC Multi-Purpose Canister System (NAC–MPC), Revision 2.'' The NRC evaluated the NAC submittal and issued a preliminary Safety Evaluation Report (SER) on the NAC SAR and proposed Certificate of Compliance (CoC) for the NAC–MPC cask system on August 9, 1999.

The NRC is proposing to approve the NAC–MPC cask system for storage of spent fuel under the conditions specified in the proposed CoC. This cask system, when used in accordance with the conditions specified in the CoC and NRC regulations, will meet the requirements of 10 CFR part 72; thus, adequate protection of the public health and safety would be ensured. This cask system is being proposed for listing under 10 CFR 72.214, ''List of approved spent fuel storage casks,'' to allow holders of power reactor operating licenses to store spent fuel in this cask system under a general license. The CoC would terminate 20 years after the effective date of the final rule listing this cask in 10 CFR 72.214, unless the cask system's CoC is renewed. The certificate contains conditions for use which are specific for this cask system and addresses issues such as operating procedures, training exercises, and spent fuel specification.

The proposed CoC for the NAC–MPC cask system and the underlying preliminary SER, dated August 9, 1999, are available for inspection and comment at the NRC Public Document Room, 2120 L Street, NW. (Lower Level), Washington, DC. Single copies of the proposed CoC and preliminary SER may be obtained from Stan Turel, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 415–6234, email spt@nrc.gov.

Discussion of Proposed Amendments by Section

Section 72.214 List of approved spent fuel storage casks.

Certificate Number 1025 would be added indicating that: