

Section 21

FINAL SUPPORTING STATEMENT FOR LOSS OF ALL ALTERNATING CURRENT POWER

10 CFR 50.63

DESCRIPTION OF THE INFORMATION COLLECTION

The provisions of 10 CFR 50.63 require each licensed light-water-cooled nuclear power plant to be able to withstand for a specified duration and recover from a site blackout.

Section 50.63(a)(2) states that the capability for coping with a site blackout of specified duration shall be determined by an appropriate coping analysis. Utilities are expected to have the baseline assumptions, analyses, and related information used in their coping evaluations available for NRC review.

Section 50.63(c)(1) requires licensees to submit the following information 270 days after the date of license issuance:

- (i) A proposed station blackout duration for use in determining compliance with 10 CFR 50.63, including a justification for the selection based on the following factors: (1) the redundancy of the onsite emergency AC power sources; (2) the reliability of the onsite emergency AC power sources; (3) the expected frequency of loss of offsite power; and (4) the probable time needed to restore offsite power.
- (ii) A description of the procedures that will be implemented for site blackout events for the duration determined in (i), above, and for recovery therefrom.
- (iii) A list of modifications to equipment and associated procedures, if any, necessary to meet the requirements of 10 CFR 50.63 for the specified site blackout duration determined in (i), above, and a proposed schedule for implementing the stated modifications.

Section 50.63(c)(4) requires licensees for plants licensed to operate on or before June 21, 1988, to submit a schedule commitment for implementing any equipment and associated procedure modifications. This submittal was required within 30 days after receipt of NRC's regulatory assessment and was required to include an explanation of the schedule and a justification if the schedule did not provide for completion of the modifications within two years of the notification. This information collection has been completed for all affected licensees.

A. JUSTIFICATION

1. Need for and Practical Utility of the Collection of Information

This issue concerns the reliability of the alternating current (AC) electrical power for essential and nonessential service in nuclear power plants. Normal AC electrical power is supplied primarily by the onsite/offsite (preferred) power supply; redundant onsite emergency AC power systems also are provided in the event that the preferred power source is lost. The loss of both the preferred and onsite emergency AC power systems results in a condition called station blackout.

The AC electrical power systems provide power for various safety systems including reactor core decay heat removal and containment heat removal. These systems are essential for preserving the integrity of the reactor core and the containment building. The reactor core decay heat also can be removed for a limited time period by safety systems that are independent of AC power. If a total loss of all AC electrical power persists for a sufficient time that the capability of the AC-independent system to remove decay heat is exceeded, core melt and containment failure could result.

This issue has been studied extensively by the Commission under Unresolved Safety Issue A-44, Station Blackout. As a consequence of these studies, the NRC amended its regulations by adding a Section 50.63 to the 10 CFR to require that light water reactor nuclear power plants be designed to withstand a total loss of AC electrical power for a specified time duration and maintain reactor core cooling during that period. This requirement is intended to provide further assurance that a station blackout will not adversely affect public health and safety.

2. Agency Use of Information

The NRC staff reviewed licensees' proposed station blackout duration and the proposed equipment and procedure modifications and their proposed implementation schedule to assure conformance with the regulation and to assure that a station blackout will not adversely affect public health and safety.

3. Reduction in Burden Through Information Technology

Not applicable. Task is complete.

4. Effort to Identify Duplication and Use Similar Information

Not applicable. Task is complete.

5. Effort to Reduce Small Business Burden

Not applicable. Task is complete.

6. Consequences to Federal Program or Policy Activities if the Collection is Not Conducted or is Conducted Less Frequently

This was a one-time requirement for each respondent, and it has been completed.

7. Circumstances Which Justify Variation from OMB Guidelines

This information collection did not vary from OMB guidelines.

8. Consultations Outside the NRC

The opportunity for public comment was published in the Federal Register on August 29, 2003 (68 FR 52063). No comments were received.

9. Payment or Gift to Respondents

Not applicable.

10. Confidentiality of Information

Information submitted as confidential or proprietary is handled in accordance with 10 CFR 2.790 of the NRC's regulations.

11. Justification for Sensitive Questions

No sensitive information was requested.

12. Estimated Industry Burden and Burden Hour Cost

None. This information collection has been completed.

13. Estimate of Other Additional Costs

None.

14. Estimated Annualized Cost to the Federal Government

None. This information collection has been completed.

15. Reasons for Changes in Burden or Cost

This information collection has been completed.

16. Publication for Statistical Use

The information collected under 10 CFR 50.63 is not used for statistical purposes.

17. Reason for Not Displaying the Expiration Date

The requirement is contained in a regulation. Amending the Code of Federal Regulations to display information that, in an annual publication, could become obsolete would be unduly burdensome and too difficult to keep current.

18. Exceptions to the Certification Statement

None.

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

Not applicable.