

FINAL SUPPORTING STATEMENT  
FOR  
ANTICIPATED TRANSIENT WITHOUT SCRAM

10 CFR 50.62

DESCRIPTION OF THE INFORMATION COLLECTION

10 CFR 50.62 requires the installation of certain equipment in nuclear power plants to prevent and mitigate anticipated transient without scram (ATWS) events. The licensee for a nuclear power plant is required, by 10 CFR 50.62(c)(6), to submit a copy of equipment design and installation plans to the NRC to ensure that the equipment will perform its intended safety function.

In addition, 10 CFR 50.62(d) requires the licensee to submit a schedule to the NRC for implementing the requirements of 10 CFR 50.62. This provision allows the establishment of implementation schedules that are tailored to the safety priority needs and resources of the individual licensee.

All licensees for nuclear power plants have submitted design and installation plans to the NRC as required by 10 CFR 50.62. Licensees have also submitted schedules for implementing these requirements. Thus, all information collection is now complete.

A. JUSTIFICATION

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

An ATWS is an expected operational transient (such as a loss of feedwater, loss of condenser, or loss of offsite power to the reactor) which is accompanied by a failure of the reactor trip system (RTS) to shut down the reactor. The RTS consists of those power sources, sensors, initiation circuits, logic matrices, bypasses, circuit breakers, interlocks, racks, panels and control boards, and actuation and actuated devices, that are required to initiate reactor shutdown, and includes the control rods and control rod mechanisms as well. That portion of the RTS exclusive of the control rods and control rod mechanisms is referred to as the scram system. ATWS is a cause of concern because under certain postulated conditions it could lead to severe core damage and release of radioactivity to the environment. The ATWS question involves safe shutdown of the reactor during a transient if there is a failure of the RTS. There have been precursors to an ATWS such as the failure of the automatic portion of the RTS at the Salem 1 nuclear generating station on February 25, 1983, although manual shutdown was accomplished after 30 seconds, and no core damage or release of radioactivity occurred. 10 CFR 50.62 requires improvements in the design and operation of nuclear power plants to reduce the likelihood of failure of the reactor protection system to shut down the reactor

following anticipated transients and to mitigate the consequences of ATWS events. This will significantly reduce the risks of nuclear power plant operation.

2. Agency Use of Information

The NRC has reviewed the design and installation plans to ensure that the equipment will perform its intended safety function.

3. Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them. The NRC issued a regulation on October 10, 2003 (68 FR 58791), consistent with the Government Paperwork Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, e-mail, special Web-based interface or other means. However, because this task is complete, there will be no submissions.

4. Effort to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of requirements. NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections.

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

The information collection did not vary from OMB guidelines.

8. Consultations Outside the NRC

The opportunity for public comment on the information collections requirements for this clearance package was published in the *Federal Register* on March 2, 2010 (75 FR 9444). No comments were received.

9. Payment or Gift to Respondents

Not applicable.

10. Confidentiality of Information

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17(a) and 10 CFR 2.390(b). However, no information normally considered confidential or proprietary is requested.

11. Justification for Sensitive Questions

No sensitive information was requested.

12. Estimated Industry Burden and Burden Hour Cost

None.

13. Estimate of Other Additional Costs

None.

14. Estimated Annualized Cost to the Federal Government

None.

15. Reasons for Changes in Burden or Cost

There is no change in burden. All licensees for nuclear power plants have submitted design and installation plans to NRC as required by 10 CFR 50.62. Licensees have also submitted schedules for implementing the requirements of 10 CFR 50.62. NRC has completed its review of the proposed schedules and the design and installation plans and has completed inspections of the installed systems. Therefore, the information collection requirement for the ATWS issue is complete.

16. Publication for Statistical Use

The collected information is not published 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.

Section 21

FINAL SUPPORTING STATEMENT  
FOR  
LOSS OF ALL ALTERNATING CURRENT POWER

10 CFR 50.63, 10 CFR 50.63(a)(2), 10 CFR 50.63(c)(1) and 10 CFR 50.63(c)(4)

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. This information collection has been completed for all current licensees. No new reactor licenses will be issued during this clearance period.

10 CFR 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.

10 CFR 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: (i) the redundancy of the onsite emergency AC power sources; (ii) the reliability of the onsite emergency AC power sources; (iii) the expected frequency of loss of offsite power; and (iv) 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.

10 CFR 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. Thus, all information collection is now complete.

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 10 CFR 50.63 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.

1. 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

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them. NRC issued a regulation on October 10, 2003 (68 FR 58791), consistent with the Government Paperwork Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, e-mail, special Web-based interface, or other means. However, because this task is complete, there will be no submissions.

4. Effort to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of requirements. NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections.

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.

1. 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 on the information collections requirements for this clearance package was published in the *Federal Register* on March 2, 2010 (75 FR 9444). No comments were received.

9. Payment or Gift to Respondents

Not applicable.

10. Confidentiality of Information

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17(a) and 10 CFR 2.390(b). However, no information normally considered confidential or proprietary is requested.

11. Justification for Sensitive Questions

No sensitive information was requested.

12. Estimated Industry Burden and Burden Hour Cost

None.

13. Estimate of Other Additional Costs

None.

14. Estimated Annualized Cost to the Federal Government

None.

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.

COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

Not applicable.



FINAL SUPPORTING STATEMENT  
FOR  
LIMITATIONS ON THE USE OF HIGHLY ENRICHED URANIUM (HEU)  
IN DOMESTIC RESEARCH AND TEST REACTORS

10 CFR 50.64, 50.64(b)(1), 50.64(c)(1), 50.64(c)(2)(i), 50.64(c)(2)(ii) and 50.64(c)(2)(iii)

DESCRIPTION OF THE INFORMATION COLLECTION

Section 50.64(b)(1) limits the use of highly enriched uranium (HEU) fuel in research and test reactors. This regulation requires that new research and test reactors use low enriched uranium (LEU) fuel unless the applicant demonstrates a “unique purpose” as defined in 50.2. Moreover, section 50.64(b)(2) requires that existing research and test reactors replace HEU fuel with acceptable LEU fuel when available.

Section 50.64(c)(1) states any request by a licensee for a determination that a non-power reactor has a unique purpose as defined in 50.2 should be submitted with supporting documentation to the Director of the Office of Nuclear Reactor Regulation.

Section 50.64(c)(2)(i) requires that licensees authorized to possess and use HEU fuel submit to the NRC written documentation containing a schedule of when a Safety Analysis Report will be submitted and when other events will take place in the conversion from HEU to LEU fuel. This documentation should be updated annually until the Safety Analysis Report is submitted. This documentation containing the schedule will be based upon the availability of replacement fuel acceptable to the NRC and consideration of other factors such as the availability of shipping casks, financial support, and reactor usage.

Section 50.64(c)(2)(ii) requires the licensee authorized to possess and use HEU fuel to submit a statement to the NRC that Federal Government funding for conversion to LEU is not available (with supporting documentation) in lieu of the requirement of section 50.64(c)(2)(i) above. If this statement of non-availability of Federal Government funding is submitted, the licensee will be required to resubmit a proposal for meeting the requirements of 50.64(b)(2) or (3) at 12-month intervals.

Section 50.64(c)(2)(iii) requires that the proposal include, to the extent required to effect the conversion, all necessary changes in the license, facility, or procedures. Supporting safety analyses should also be provided so as to meet the schedule established for conversion.

A. JUSTIFICATION

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

A Commission policy statement published August 24, 1982 (47 FR 37007), explains NRC's interest in reducing the use of HEU in research and test reactors. This interest stems from NRC's licensing responsibility for both domestic use and for export of HEU and concern about risks of theft or diversion of this material.

The policy statement also describes a continuing program to develop and demonstrate the technology that will facilitate the use of reduced enrichment fuels. The reduced enrichment for research and test reactors (RERTR) program was initiated by the Department of Energy (DOE) and is managed by the Argonne National Laboratory. Its objective is to prove the ability of new LEU fuels to replace existing HEU fuel without significant changes to existing reactor cores or facilities, or significant decrease in performance characteristics of the reactors.

Information shows that a major consideration is the cost of conversion. NRC shares the licensees' expressed view that conversion costs should largely or entirely be financed by the Federal government. Historically, the DOE and its predecessor agencies have provided significant support to research and test reactor programs. The availability of Federal support will be considered in determining the availability of LEU fuel and final schedules for conversion.

Section 50.64, "Limitations on the Use of Highly Enriched Uranium (HEU) in Domestic Research and Test Reactors," is intended to reduce the risk of theft or diversion of HEU fuel used in research and test reactors. The reduction in domestic use of HEU fuel may encourage similar action by foreign research reactor operations, and thereby reduce the amount of HEU fuel in international use.

## 2. Agency Use of Information

A respondent may request of the NRC a unique purpose exemption with supporting information pursuant to 10 CFR 50.64(c)(1). The NRC will use the information to make a determination that the nuclear research and test reactor has a unique purpose as defined in 10 CFR 50.2.

A respondent will develop and submit to the NRC pursuant to 10 CFR 50.64(c)(2) a proposed schedule for meeting the requirements of 10 CFR 50.64(b)(2) or (3). This schedule must be updated annually until the Safety Analysis Report is submitted. The proposed schedule must be based upon availability of replacement fuel acceptable to the Commission and consideration of other factors such as the availability of shipping casks, financial support, and reactor usage. NRC will use the proposed schedule plus the results of the successful accomplishment of the tasks set out in DOE's RERTR program and the development of commercially available replacement fuel to determine a final schedule.

The proposed schedule for meeting the requirements of 10 CFR 50.64(c)(2) will require a comparison between the licensee's existing fuel design and fuels developed or projected for development under the documented RERTR program. Coordination with NRC to formulate proposed schedules for regulatory review and with DOE to develop fuel procurement and supporting equipment schedules will be required.

NRC will review the supportive safety analyses required by the provisions of Section 50.64(c)(2)(iii). Subsequent to this review, the Director of the Office of Nuclear Reactor Regulation will issue an appropriate enforcement order directing both the conversion and, to the extent consistent with protection of public health and safety, any necessary changes to the license, facility, or procedures.

3. Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them. NRC issued a regulation on October 10, 2003 (68 FR 58791), consistent with the Government Paperwork Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, e-mail, special Web-based interface or other means. It is estimated that approximately 0% of the potential responses are filed electronically.

4. Effort to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of requirements. NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections.

5. Effort to Reduce Small Business Burden

This information collection affects universities, a corporation and a government agency. The schedules for conversion of fuel are necessary so that the NRC can ensure proper controls pertaining to risks of theft or diversion of HEU; thus, it is not possible to reduce burden.

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

Information to justify use of HEU or to schedule its discontinuance is necessary to protect the health and safety of the public.

7. Circumstances which Justify Variation from OMB Guidelines

This information collection does not vary from OMB guidelines.

8. Consultations Outside the NRC

The opportunity for public comment on the information collections requirements for this clearance package was published in the *Federal Register* on March 2, 2010 (75 FR 9444). No comments were received.

9. Payment or Gift to Respondents

Not applicable.

10. Confidentiality of Information

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17 (a) and 10 CFR 2.390 (b).

11. Justification for Sensitive Questions

Sensitive information to justify use of HEU or to schedule its discontinuance is necessary to protect the health and safety of the public.

12. Estimated Industry Burden and Burden Hour Cost

Burden estimates discussed below are based on industry experience.

Reporting:

Section 50.64(c)(1). Approximately 10 hours each are required each year for the 2 "unique purpose" applicants to respond to Commission requests for additional supporting documentation for a "unique purpose" determination. This burden will be approximately 20 hours (2 x 10 hours).

Section 50.64(c)(2)(i). Approximately 10 hours each are required for 4 respondents to develop and submit the annual updated documentation to NRC. (All licensees other than those reporting under 10 CFR 50.64(c)(2)(ii) have completed the requirements of this section.) This burden will be approximately 40 hours (4 x 10 hours).

Section 50.64(c)(2)(ii). Approximately 10 hours each are required for 4 respondents to develop and submit the annual updated documentation to NRC. This burden will be approximately 40 hours (4 x 10 hours).

Total responses equal 10 with a total reporting burden of 100 hours.

Recordkeeping:

Section 50.64(c)(2)(iii). In addition to the reporting required by Sections 50.64(c)(2)(i) and 50.64(c)(2)(ii), it is anticipated that over the three-year clearance period approximately 1,000 hours will be expended by 3 of the 4 licensees reporting under Section 50.64(c)(2)(i) to prepare appropriate safety analyses as specified in Section 50.64(c)(2)(iii). The staff does not anticipate the remaining licensee will develop a safety analysis during this reporting period. Therefore, approximately 1,000 hours (1,000 hours x 3 licensees divided by 3) would be expended annually for this effort.

Thus, the total annual burden to industry is expected to be 1,100 hours (100 hours reporting + 1,000 hours recordkeeping), at an annual cost of \$282,700 (1,100 hours x \$257).

13. Estimate of Other Additional Cost

Based on the number of pages maintained for a typical clearance, the records storage cost has been determined to be equal to .0004 percent of the recordkeeping burden cost. Therefore, the storage cost for this clearance is estimated to be \$102.80 (1,000 hours x \$257 x .0004).

14. Estimated Annualized Cost to the Federal Government

Section 50.64(c)(1)(i). NRC staff time for making a determination for each of the two "unique purpose" reactor requests will require approximately 10 hours for a total staff burden for 2 requests of 20 hours annually.

Section 50.64(c)(2). NRC staff time for consideration of a schedule proposed by a non-power reactor licensee and determination of a final schedule will require approximately 47 hours for each of 4 licensees annually for a total of 188 hours.

In addition, it is anticipated that approximately 500 hours will be expended by the NRC for 3 of the 4 licensees to review their safety analyses over the three-year clearance period. The staff does not anticipate the remaining licensee will develop a safety analysis during this reporting period. Therefore, approximately 500 hours (500 x 3 licensees divided by 3) would be expended annually for this effort.

The four licensees subject to 50.64(c)(2)(ii) will require 10 hours of staff burden each for 40 hours annually.

The total annual Federal burden is, therefore, 748 hours (20 + 188 + 500 + 40 hours), at an annual cost of \$192,236 (748 x \$257).

15. Reasons for Changes in Burden or Cost

The industry burden has decreased by 333 hours (1,433 to 1,100 hours) because staff does not anticipate all the licensees subject to Section 50.64(c)(2)(i) will develop a safety analysis during the upcoming three-year reporting period.

There has been an increase in the overall cost as a result of an increase in the rate from \$217 to \$257 per hour.

16. Publication for Statistical Use

The collected information is not published 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.

## Section 23

### FINAL SUPPORTING STATEMENT FOR REQUIREMENT FOR MONITORING THE EFFECTIVENESS OF MAINTENANCE AT NUCLEAR POWER PLANTS

10 CFR 50.65

#### Description of the Information Collection

Requirements pertaining to the monitoring of the effectiveness of maintenance at nuclear power plants are provided in 10 CFR 50.65. The latest version of the rule became effective on November 30, 2000. This performance-based rule requires monitoring of the overall continuing effectiveness of licensee maintenance programs by means of licensee tracking of the performance (in terms of availability and/or reliability) or condition of structures, systems or components (SSCs) within the scope of the rule as defined in 10 CFR 50.65(b), with the objective that: (1) safety-related and certain non-safety related SSCs remain capable of performing their intended functions; and (2) the non-safety related SSCs will not fail in a manner that could prevent the fulfillment of safety-related functions, or result in reactor scrams or trips and unnecessary actuations of safety-related systems. For a nuclear power plant for which the licensee has submitted the certifications specified in 10 CFR 50.82(a)(1) (i.e., a decommissioned plant), 10 CFR 50.65 applies to the extent that the licensee shall monitor the performance or condition of all SSCs associated with the storage, control, and maintenance of spent fuel in a safe condition, in a manner sufficient to provide reasonable assurance that such structures, systems, and components remain capable of fulfilling their intended functions. 10 CFR 50.65(a)(4), added in 2000, requires assessing and managing risk associated with maintenance activities.

The performance-oriented maintenance regulation requires that the licensees monitor the performance or condition of SSCs within the scope of the regulation against licensee-established goals, in a manner sufficient to provide reasonable assurance that such SSCs are capable of fulfilling their intended functions. Monitoring is not required where it has been demonstrated that the performance or condition of an SSC is being effectively controlled by appropriate preventive maintenance, such that the SSC remains capable of performing its intended function. Performance and condition monitoring activities and associated goals and preventive maintenance activities shall be evaluated at least every refueling cycle provided the interval between evaluations does not exceed 24 months. The objective of preventing failures through maintenance is to be balanced against the objective of minimizing unavailability of SSCs. Before performing maintenance activities, the licensee must assess and manage the increase in risk that may result from the proposed maintenance activities. The scope of the assessment may be limited to SSCs that a risk-informed evaluation process has shown to be significant to public health and safety.

Regulatory Guide (RG) 1.160, Rev. 2, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," which provides guidance for implementing the rule, endorses an industry guidance document, NUMARC 93-01, Rev. 2, "Industry Guideline for Monitoring the

Effectiveness of Maintenance at Nuclear Power Plants." In addition, RG 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants," endorsed a February 2000 revision to Section 11 of NUMARC 93-01 which provided the industry guidance on implementation of 10 CFR 50.65(a)(4). The rule does not explicitly require any information collection or record keeping by the licensees or the NRC. Although adoption of the regulatory guidance by licensees is voluntary, licensees have accepted and adopted this guidance. Therefore, the information collection and record keeping burdens are based on this guidance and are captured in each of the discussions below.

The industry guidance provides for demonstrating effective control of SSC performance or condition through appropriate preventive maintenance as allowed by 10 CFR 50.65(a)(2) in lieu of monitoring under 10 CFR 50.65(a)(1). Those SSCs with unacceptable performance or condition will then be monitored in accordance with the requirements of 10 CFR 50.65(a)(1). The effective control of performance or condition is demonstrated by means of utility-specific performance measures or criteria. High-safety or high-risk-significant SSCs and certain ones of lower-risk significance that are in a standby mode are normally tracked at the system or train level, and the rest are tracked on the basis of their contributing to plant-level events.

Utilities are required to identify plant SSCs that are within the scope of 10 CFR 50.65 because they perform a safety-related function or, upon failure, could prevent a safety-related function from being fulfilled or cause a scram or actuation of a safety-related system (Section 8.0)<sup>1</sup>. For SSCs not within the scope of 10 CFR 50.65, each utility is to continue existing maintenance programs.

10 CFR 50.65 expects that all SSCs that are within the scope of the regulation will have had their performance assessed and will be included in preventive maintenance program. Those SSCs with acceptable performance will be monitored in accordance with paragraph 50.65(a)(2). Those SSCs with unacceptable performance will be monitored in accordance with the requirements of paragraph 50.65(a)(1). This determination was made by licensees' assessments of the performance of the SSCs compared to utility-specific performance measures, or criteria. Specific performance criteria should be established for those SSCs that are either risk significant or normally operate in a standby mode. The balance is monitored against the overall plant level performance criteria.

The process of addressing 50.65(a)(1) includes establishing goals for structures, systems, trains, and, on occasion, components that have not demonstrated acceptable performance. The key parameter is performance, which is measured by availability, reliability, and/or condition, as appropriate.

Risk-significant SSCs should be identified by using a group of experts, termed an expert panel, normally aided by tools such as an Individual Plant Examination, a Probabilistic Risk Assessment, critical safety functions (e.g., inventory), or other systematic methods of assessment.

The performance of SSCs that do not meet the performance criteria established by a utility shall be subjected to goal setting and monitoring that leads to acceptable performance. Performance of structures, systems, trains, or components, as measured against established goals, must be

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1 Refer to sections in NUMARC 93-01.



monitored until the goals have been achieved and performance can be addressed by paragraph 50.65(a)(2).

SSCs within the scope of 10 CFR 50.65 whose performance is currently determined to be acceptable should be assessed periodically to assure that acceptable performance is sustained (Section 10.0).

Although goals are established and monitored as part of 50.65(a)(1), the performance monitoring activities associated with normal preventive maintenance are part of 50.65(a)(2) and apply to all of the SSCs that are within the scope of 10 CFR 50.65.

Licensees must assess the risk that may result from proposed maintenance activities and manage the increase in risk that may result. Licensees may limit the scope of those assessments to SSCs that a risk-informed evaluation process has shown to be significant to public health and safety.

Periodic performance assessment and monitoring should be implemented through utility-specific programs that include, as appropriate, event cause determination, corrective action, consideration of industry operating experience, and trending.

On July 19, 1999, the NRC issued a revised final rule to require that power plant licensees, before performing maintenance, assess and manage the increase in risk that may result from maintenance activities. The revised rule became effective November 28, 2000. The staff developed Regulatory Guide 1.182, which endorses a revised Section 11, dated February 22, 2000, of NUMARC 93-01. The revised Section 11 provides guidance for the assessment of risk resulting from performance of maintenance activities.

Based on the NRC staff's regulatory guidance, the licensee's information collections normally consist of program descriptions, data on goals and monitoring efforts, trends of failure data, and trends of availability data. The information is not sent to the NRC, nor is it separately compiled unless it is information that is not otherwise collected. The objective continues to be reliance on licensees' existing documentation collection activities to the greatest extent possible in order to show progress in maintenance by results in terms of SSC performance (reliability and/or availability) or condition.

Although not explicitly required by 10 CFR 50.65, each licensee needs to collect, process, and use existing maintenance records, data, and industry information in setting and monitoring goals. Section 13 of NUMARC 93-01 indicates industry-suggested documentation. Plant-specific SSC maintenance history, and performance trends based on that history, should be maintained and kept current by licensees and compared with the licensee's established goals and objectives. The SSC history may include data obtained from the plant-specific maintenance surveillance, preventive and corrective maintenance programs, and industry-wide experience. The monitoring data should be trended and the results compared with established goals to determine the need for corrective action, e.g., SSC modification, repair, replacement, or changes to maintenance procedures.

Licensees must also evaluate their maintenance programs at least once during every refueling cycle, not to exceed 24 months between evaluations, in accordance with 10 CFR 50.65(a)(3). Programs must be balanced such that reliability is maintained, without excessive unavailability

due to maintenance, and industry operating experience must be taken into account where practicable.

## A. JUSTIFICATION

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

Licenseses need to collect and analyze information concerning the performance of SSCs within the scope of 10 CFR 50.65 so that they can use information from past experience to predict future plant vulnerabilities and plan appropriate maintenance activities aimed at eliminating or mitigating those vulnerabilities.

### 2. Agency Use of Information

Information on performance criteria, goal setting and monitoring results, failure data, unavailability data, and periodic assessments developed by the licensees to implement 10 CFR 50.65, may be reviewed at the licensee's facilities by NRC inspectors in order to independently evaluate SSC performance and ensure that the SSCs are capable of fulfilling their intended function, and thereby maintain safe operation of the plant. Licensee reporting of information to the NRC is not required.

### 3. Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them. The NRC issued a regulation on October 10, 2003 (68 FR 58791), consistent with the Government Paperwork Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, e-mail, special Web-based interface or other means. Due to the nature of this requirement, it is estimated 0% of the potential responses will be filed electronically.

### 4. Effort to Identify Duplication and Use Similar Information

There is no duplication of requirements. The NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections. However, licensees are currently required to collect and document information concerning the condition and behavior of certain plant equipment in accordance with 10 CFR 50, Appendix B (e.g., procedures, quality assurance programs, records), 10 CFR 50.36 (surveillance requirements), 10 CFR 50.48 (fire protection), 10 CFR 50.49 (environmental qualification), 10 CFR 50.55a (in-service inspection requirements), 10 CFR 50.61 (pressurized thermal shock), 10 CFR 50.62 (anticipated transient without scram), 10 CFR 50.63 (station blackout), and 10 CFR 54 (license renewal), if applicable. Some of this same information will be used by licensees to partially meet the requirements of 10 CFR 50.65 with respect to safety-related SSCs.

5. Effort to Reduce Small Business Burden

10 CFR 50.65 affects only nuclear power reactor licensees, which are not small businesses. These information collection requirements do not affect small businesses, as defined in 10 CFR 2.810.

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

If the information were not collected, or were collected less frequently, licensees would perform maintenance activities more haphazardly, the plant would operate less predictably, and the health and safety of the public would be less reliably protected.

7. Circumstances Which Justify Variation from OMB Guidelines

There is no variation. 10 CFR 50.65 does not change any of the existing requirements for records retention. Maintenance surveillance and failure records and data are retained in accordance with existing plant procedures and requirements. If the licensee chooses to retain records for longer than three years, that will result from trends in failures and unavailability of SSCs and not as a result of any specific requirements of 10 CFR 50.65 or its implementing guidance. The adequacy of licensees' efforts is judged on the basis of acceptability of equipment performance or condition. Therefore, record retention periods are driven by the needs of licensees to develop useful trending information.

8. Consultations Outside the Agency

The opportunity for public comment on the information collections requirements for this clearance package was published in the *Federal Register* on March 2, 2010 (75 FR 9444). No comments were received.

9. Payment or Gift to Respondents

Not applicable.

1. Confidentiality of Information

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17(a) and 10 CFR 2.390(b). However, no information normally considered confidential or proprietary is requested.

11. Justification for Sensitive Questions

No sensitive information is requested under this regulation.

12. Estimated Industry Burden and Burden Hour Cost

The licensee's information collections normally consist of program descriptions, data on goals and monitoring efforts, trends of failure data, and trends of availability data. The information is not sent to the NRC, nor is it separately compiled unless it is information that is not otherwise collected, therefore there is no reporting burden.

The burden varies depending on the quality of the current maintenance program and is calculated for marginally satisfactory plants, satisfactory plants, and good plants (no new plants are expected to be in a maintenance mode during this clearance period). Additionally, 14 plants are in a permanently shutdown status and have a significantly reduced maintenance program. The hourly recordkeeping burdens are listed below.

- a. Section 13.3 of NUMARC 93-01: Documentation of Performance Against Goals, Changes to Goals, Expanded Data Collection, Data Analysis, Trending, Cause Analysis, and Programs Analysis

All three categories of operating plants require additional staff for necessary documentation. It is assumed that one additional staff person spends two-thirds of the time on these information collection activities.

Number of Plants	Burden per Plant	Total Burden
104	1,400	145,600

- b. Section 13.4 of NUMARC 93-01: Documentation of Preventive Maintenance Program

It is assumed that one-third of a staff person's time is devoted to related information collection activities for satisfactory and good plants. Marginally satisfactory plants require two-thirds of a staff person's time. It is further assumed that the burden at a permanently shutdown plant is approximately 80 hours per year.

Category	No. of Plants	Burden per Plant	Total Burden
Marginally Satisfactory	15	1,400	21,000
Satisfactory and Good	89	695	61,855
Permanently Shutdown	14	80	1,120
Total			83,975

c. Section 13.5 of NUMARC 93-01: Periodic Assessments

It is assumed that two-thirds of a staff person's time is devoted to information collections associated with assessment, feedback, and corrective actions for operating plants. For permanently shutdown plants, 10 CFR 50.65 only applies to maintenance of spent fuel in a safe manner. Thus, the burden is much less.

Number of Plants	Burden per Plant	Total Burden
104	1,400	145,600
14	8	112
Total		145,712

d. Section 11 of NUMARC 93-01: Risk Assessment and Management

Number of Plants	Burden per Plant	Total Burden
104	700	72,800
14	40	560
Total		73,360

e. Total Burden

The total burden is 448,647 hours per year (145,600 + 83,975 + 145,712 + 73,360 hours). Of this, 446,855 burden hours represents an industry total for operating plants (145,600 + 21,000 + 61,855 + 145,600 + 72,800), an average of 4,297 hours per plant. The rest, 1,792 hours, represents an industry total for shutdown plants (1120 + 112 + 560), for an average of 128 hours per plant.

f. Total Industry Burden and Cost

Based on the above, the annual burden per operating plant is estimated to be 4,296 hours with a cost of \$1,104,072 per plant (4,296 hours x \$257 per hour), and the cost to a shutdown plant is \$32,896 (128 hours x \$257 per hour). The total annual industry burden is estimated to be 448,647 hours at a total annual cost of \$115,302,279 (448,647 hours x \$257 per hour).

13. Estimate of Other Additional Costs

The NRC has determined that the quantity of records to be maintained is roughly proportional to the recordkeeping burden and, therefore, can be used to calculate approximate records storage costs. Based on the number of pages maintained for a typical clearance, the records storage cost has been determined to be equal to 0.0004 times the recordkeeping burden cost. Because the recordkeeping burden is estimated to be 448,647 hours, the storage cost for this clearance is \$46,121 (448,647 hours x 0.0004 x \$257/hour).

14. Estimated Annualized Burden to the Federal Government

The NRC already performs maintenance inspections and maintenance evaluations. 10 CFR 50.65 strengthens the basis for the inspections and evaluations, but does not require additional inspection activities. The focus of the NRC inspections has changed but the burden is not expected to change. Therefore, there will be no increased burden to the Federal government for information collection activities related to 10 CFR 50.65.

The annual cost to the government is associated with inspection and evaluation of maintenance activities at power reactor facilities. Of the 104 licensed to operate nuclear power plants, during this clearance period, 65 are subject to inspection and evaluation of maintenance activities. NRC estimates 510 hours per year for each of the 65 operating nuclear power reactor sites and 51 hours per year for each of the 14 permanently shutdown power reactor plants for inspection and evaluation of maintenance activities. Therefore, the burden estimated for this effort is 33,864 hours (510 x 65 sites + 51 x 14 plants), at a cost of \$8,703,048 (33,864 hours x \$257).

The cost is fully recovered by fee assessments to NRC licensees pursuant to 10 CFR 170 and/or 171.

15. Reasons for Changes in Burden and Cost

The overall burden has decreased by 128 hours, from 448,775 hours to 448,647. As a result of a plant completing decommission, their license has been terminated and the facility no longer falls under NRC regulatory purview, 10 CFR 50.65 no longer applies, thus decreasing the number of permanently shutdown plants from 15 to 14. The total industry cost increased from \$97,384,175 to \$115,302,279 due to the increase in hourly costs, from \$217 per hour to \$257 per hour.

16. Publication for Statistical Use

There will be no publication by the NRC of collected information for statistical use.

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.

COLLECTION OF INFORMATION EMPLOYING STATISTICAL METHODS

Statistical methods may be used by licensees for the collection or analysis of plant information. NRC inspectors are not expected to use statistical methods in their reviews of licensee implementation of the rule. Use of statistical methods is allowed but not required by 10 CFR 50.65 and its implementing guidance.

## Section 24

### FINAL SUPPORTING STATEMENT FOR REQUIREMENTS FOR THERMAL ANNEALING OF THE REACTOR PRESSURE VESSEL

10 CFR 50.66, 10 CFR 50.66(b)(1), 10 CFR 50.66(b)(2), 10 CFR 50.66(b)(3),  
10 CFR 50.66(b)(4), 10 CFR 50.66(c)(1), 10 CFR 50.66(c)(2), 10 CFR 50.66(c)(3),  
10 CFR 50.66(c)(3)(ii), 10 CFR 50.66(c)(3)(iii) and 10 CFR 50.66(d)

#### DESCRIPTION OF THE INFORMATION COLLECTION

On January 18, 1996, the NRC amended its regulations for light-water-cooled power plants to provide requirements for thermal annealing of a reactor pressure vessel. This new regulation, 10 CFR 50.66 (known as the thermal annealing rule), provides a set of requirements for the use of thermal annealing by licensees who elect to use this approach to mitigate the detrimental effects of neutron irradiation. This rule requires submittal of a Thermal Annealing Report at least three years prior to the date at which the limiting fracture toughness criteria in 10 CFR 50.61 or 10 CFR 50 Appendix G would be exceeded. This report must include: a Thermal Annealing Operating Plan; a Requalification Inspection and Test Program; a Fracture Toughness Recovery and Reembrittlement Trend Assurance Program; and Identification of Unreviewed Safety Questions and Technical Specification Changes. Under 10 CFR 50.66, the NRC will, within three years of submission of a licensee's Thermal Annealing Report and at least thirty days prior to the start of the annealing, document its views on the report. After completion or termination of thermal annealing, the licensee is required to notify the NRC of the results, and, as required, provide a justification for subsequent operation.

Specifically, 10 CFR 50.66 requires the following information collections:

10 CFR 50.66(b)(1) requires the Thermal Annealing Operating Plan to include (1) a detailed description of the pressure vessel and all structures and components that are expected to experience thermal or stress effects during the annealing operation; (2) an evaluation of the effects of mechanical and thermal stresses and temperatures on the vessel, containment, biological shield, attached piping and appurtenances, and adjacent equipment and components to demonstrate that operability of the reactor will not be detrimentally affected; (3) the methods, including heat source, instrumentation and procedures proposed for performing the thermal annealing; and, (4) the proposed thermal annealing operating parameters, including bounding conditions for temperatures and times, and heatup and cooldown schedules.

10 CFR 50.66(b)(2) requires the Requalification Inspection and Test Program to requalify the annealed reactor vessel to include enough detail to demonstrate that the limitations of the thermal annealing plan are not exceeded and have not degraded the reactor vessel.

10 CFR 50.66(b)(3) details the parameters and conditions that must be evaluated in the Fracture Toughness Recovery and Reembrittlement Trend Assurance Program to document fracture toughness recovery and reembrittlement rate.



10 CFR 50.66(b)(4) requires the report to identify any changes to the facility as described in the updated final safety analysis report (UFSAR) constituting unreviewed safety questions, and any changes to the technical specifications (TS), which are necessary to either conduct the thermal annealing or operate the nuclear power reactor following the annealing.

10 CFR 50.66(c)(1) requires that if the thermal annealing was completed in accordance with the Thermal Annealing Operating Plan (the Plan) and the Requalification Inspection and Test Program (the Program), the licensee shall so confirm in writing to the NRC.

10 CFR 50.66(c)(2) requires that if the thermal annealing was completed but the annealing was not performed in accordance with the Plan and the Program, the licensee shall submit, to the NRC, a summary of lack of compliance and a justification for subsequent operation. This summary and justification must identify any changes to the facility as described in the UFSAR which are attributable to the non-compliance and constitute unreviewed safety questions, and any changes to the TS which are required as a result of the non-compliance.

10 CFR 50.66(c)(3) requires that if the thermal annealing was terminated prior to completion, the licensee shall immediately notify the NRC of the premature termination. 10 CFR 50.66(c)(3)(i) states that if the partial annealing was otherwise performed in accordance with the Plan and relevant portions of the Program, and the licensee does not elect to take credit for any recovery, the licensee need not submit the Thermal Annealing Results Report (Results Report) required by 10 CFR 50.66(d), but instead shall confirm in writing to the NRC that the partial annealing was otherwise performed in accordance with the Plan and relevant portions of the Program. 10 CFR 50.66(c)(3)(ii) states that if the partial annealing was otherwise performed in accordance with the Plan and relevant portions of the Program, and the licensee elects to take full or partial credit for the partial annealing, the licensee shall so confirm in writing to the NRC. 10 CFR 50.66(c)(3)(iii) states that if the partial annealing was not performed in accordance with the Plan and relevant portions of the Program, the licensee shall submit, to the NRC, a summary of lack of compliance and a justification for subsequent operation. The summary and justification shall also identify any changes to the facility as described in the UFSAR which are attributable to the noncompliances and constitute unreviewed safety questions, and any changes to the TS which are required as a result of the noncompliances.

10 CFR 50.66(d) requires, within three months of completing the thermal annealing, unless an extension is authorized by the NRC, a Thermal Annealing Results Report from every licensee that either completes a thermal annealing, or that terminates an annealing but elects to take full or partial credit for the annealing. The Results Report shall provide time and temperature profiles of the actual annealing, the post-anneal  $RT_{NDT}$  (reference temperature for nil ductility transition) and Charpy upper-shelf energy values for use in subsequent reactor operation and projected values at the end of the proposed period of operation addressed in the Thermal Annealing Report, and projected post-annealing reembrittlement trends for both  $RT_{NDT}$  and Charpy upper-shelf energy.

Regulatory Guide-1.162 was developed to describe a format and content acceptable to the NRC staff for the report to be submitted for approval to perform a thermal annealing of a reactor vessel. Use of this format by the applicant would help ensure the completeness of the information provided, would assist the NRC staff in location of specific information, and would

aid in shortening the time needed for the review process. Also, this guide describes acceptance criteria that the NRC staff would use in evaluating these reports to ensure that the annealing conditions imposed on the reactor and other equipment, components, and structures do not degrade the original design of the system. Section 2.1 of RG-1.162 directs the licensee to retain reactor annealing measurement records until the facility license is terminated.

## A. JUSTIFICATION

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

The information required by 10 CFR 50.66 is needed by the NRC to assess the adequacy of the proposed thermal annealing program and to assure that the plant will continue to be fit for safe operation after the thermal annealing operation. In addition, this information will supply data needed to assess the degree of recovery of fracture toughness properties and the projected reembrittlement rate of the reactor vessel material. This information should be collected and reported, and records should be kept, for the duration of the plants' operating license.

### 2. Agency Use of Information

NRC uses the information required by Section 10 CFR 50.66 to thoroughly review the thermal annealing program, document its views on the plan, including whether thermal annealing constitutes an unreviewed safety question, and place the results of its evaluation in its Public Document Room. The NRC also uses the information to determine whether the annealing conditions will detrimentally affect the safe operation of the plant, and whether the fracture toughness recovery and reembrittlement rates meet the requirements of 10 CFR 50.60 and 50.61.

Upon receipt of licensee's Thermal Annealing Results Report after completion or termination of thermal annealing, the NRC will review the report, document whether the thermal annealing was performed in compliance with the Plan and the Program, place the documentation in the NRC Public Document Room, and hold a public meeting to: (a) permit the licensee to explain the results of the reactor vessel annealing to the NRC and the public, (b) allow the NRC to discuss its inspection of the reactor vessel annealing, and (c) provide an opportunity for the public to comment to the NRC on the thermal annealing.

### 3. Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them. NRC issued a regulation on October 10, 2003 (68 FR 58791), consistent with the Government Paperwork Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, e-mail, special Web-based interface, or other means. It is estimated that approximately 35 percent of the potential responses are filed electronically.

4. Effort to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of requirements. NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections.

5. Effort to Reduce Small Business Burden

This information does not affect small business.

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

These collections are one-time only collections. If the information were not collected, the NRC would be unable to ensure that appropriate limits have been established and that the thermal annealing process would not degrade the integrity of reactor pressure vessel.

7. Circumstances Which Justify Variations from OMB Guidelines

The information records should be retained for the duration of the plants' operating license (over 3 years) to permit assessment of the adequacy of vessel fluence determinations during the period the plant is operating. This information is required to establish that the reactor vessel has adequate toughness as prescribed in 10 CFR 50 Appendix G and 10 CFR 50.61.

8. Consultations Outside the NRC

The opportunity for public comment on the information collections requirements for this clearance package was published in the *Federal Register* on March 2, 2010 (75 FR 9444). No comments were received.

9. Payment or Gift to Respondents

Not applicable.

10. Confidentiality of Information

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17(a) and 10 CFR 2.390(b). However, no information normally considered confidential or proprietary is requested.

11. Justification for Sensitive Questions

This regulation does not require sensitive information.

12. Estimated Industry Burden and Burden Hour Cost

At the present time, no licensee has proposed to anneal a reactor vessel. However, the reporting burden that could result from compliance with this regulation is estimated to be 6,400 hours per thermal annealing operation at a cost of \$1,644,800 (6,400 hours x \$257). The recordkeeping burden that could result from compliance with this regulation is estimated to be 200 hours per thermal annealing operation at a cost of \$51,400 (200 hours x \$257).

13. Estimate of Other Additional Costs

The NRC has determined that the quantity of records to be maintained is roughly proportional to the recordkeeping burden and, therefore, can be used to calculate approximate records storage costs. Based on the number of pages maintained for a typical clearance, the records storage cost has been determined to be equal to 0.0004 times the recordkeeping burden cost. Because the recordkeeping burden is estimated to be 200 hours, the storage cost for this clearance is \$20.56 (200 hours x 0.0004 x \$257/hour).

14. Estimated Annualized Cost to the Federal Government

As stated above, no licensee has proposed to anneal a reactor vessel. If an application is submitted, the time for the NRC to perform the necessary reviews, prepare the evaluation reports, complete the licensing process and issue approvals is estimated to be an average of 2,000 hours per annealing operation. This one-time cost to the Federal government of activities related to the proposed regulation is estimated to be \$514,000 (2,000 hours x \$257). This cost is fully recovered by fee assessments to NRC licensees pursuant to 10 CFR Parts 170 and/or 10 CFR 171.

15. Reasons for Changes in Burden or Cost

There has been no change in burden; however, there has been a change to the base burden cost from \$217 to \$257 per hour.

16. Publication for Statistical Use

The collected information is not published 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.

FINAL SUPPORTING STATEMENT  
FOR  
GENERIC COMMUNICATIONS PROGRAM

10 CFR 50.71

DESCRIPTION OF THE INFORMATION COLLECTION

The generic communications program is an adjunct to the NRC regulatory oversight program and functions as an extension of the reporting requirements under 10 CFR 50.71 which require each licensee, each holder of a construction permit, each applicant for a permit or license, including nuclear power reactor licensees that have submitted the 10 CFR 50.82(a)(1)(i) certification of permanent cessation of operations, and non-power reactor licensees that are no longer authorized to operate, to maintain such records and make such reports, in connection with the licensed activity, as may be required by the conditions of the license or permit or by the rules, regulations and orders of the Commission in effectuating the purposes of the Atomic Energy Act of 1954, as amended (the Act), including Section 105 of the Act. NRC may issue generic communications to its licensees, and share with Agreement State authorities, under the Commission's authority in 10 CFR 30.32(b), 10 CFR 40.31(b), or 10 CFR 70.22(d) in order to require further statements that would enable the Commission to determine whether an application should be granted or denied or whether a license should be modified or revoked. Generic communications include bulletins, generic letters, regulatory issue summaries, information notices, security advisories, and information assessment team advisories (IATA). Although only bulletins and generic letters are used to request actions and/or information, regulatory issue summaries may be used to request action and/or information, but on a strictly voluntary basis.

B. JUSTIFICATION

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

Generic communications are used to disseminate information and may be used to request actions and responses from the addressees. They are not intended to serve as substitutes for revised license conditions or new regulatory requirements. Most bulletins and generic letters address regulatory requirements that are currently in NRC regulations. Prior to proposing the bulletin or generic letter, the NRC staff considers the potential additional burden caused by either having the NRC inspectors collect the information or having the licensees, construction permit (CP) holders or applicants for a permit or license provide the information in a report. After considering both options, the NRC may deem it more practical to obtain the necessary information via licensee reporting. Information collections in response to a regulatory issue summary would be the result of voluntary submittals on the part of addressees since it is inconsistent with NRC practice to include reporting requirements in such documents.

Proposed bulletins and generic letters that request actions and require responses from reactor licensees are routinely reviewed by the NRC's Committee to Review Generic Requirements (CRGR), except in those rare instances for bulletins where it is judged by the Director, Office of Nuclear Reactor Regulation, that an immediately effective action is needed to protect the health and safety of the public. In those circumstances, no prior review by the CRGR is necessary and the Office Director has the authority to issue the bulletin. Proposed bulletins address matters that are deemed urgent and generic letters address more routine matters. Urgent actions are those which are needed to overcome problems requiring priority resolution or to comply with a legal requirement for immediate or near-term compliance.

Routine actions are those which do not meet the criteria for immediately effective action or designation as urgent. These actions are scrutinized carefully by the CRGR on the basis of written justification submitted by the cognizant office. Upon notice to the members of the CRGR, and without objection, the CRGR Chairman may exempt any routine proposal from review on the grounds that he or she concludes that it involves only an insignificant effect on the NRC staff and on licensees.

The NRC believes that a reliable estimate of the annual impact of urgent and routine bulletins and generic letters is possible and that this burden is logically included in 10 CFR 50.71.

## 2. Agency Use of Information

The NRC periodically issues generic communications to communicate with the industry on matters of generic importance or serious safety significance; i.e., if an event at one facility raises the possibility of a generic problem, an NRC bulletin or generic letter may be issued requesting licensees, permit holders, or applicants to take specific actions and to submit a written report describing actions taken and providing other information that the NRC may need to assess the need for further actions to ensure public health and safety. An information notice, regulatory issue summary, security advisory, or IATA may be issued to inform the industry about matters of generic concern.

## 3. Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them. NRC issued a regulation on October 10, 2003 (68 FR 58791), consistent with the Government Paperwork Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, e-mail, special Web-based interface, or other means. It is estimated that approximately 70 percent of the potential responses are filed electronically.

## 4. Effort to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of requirements. NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections.

#### 5. Effort to Reduce Small Business Burden

The generic communication program encompassed within 10 CFR 50.71 generally does not affect small businesses. Only occasionally does a bulletin or generic letter affect research/test reactors operated by universities. Some of the licensees who use source, byproduct, and special nuclear material are small businesses. However, the health and safety consequences of improper handling or use of radioactive source, byproduct, or special nuclear material would be the same for large and small entities. Therefore, it is not possible to reduce the burden on small businesses by less complete or less frequent reporting or recordkeeping in response to a generic communication.

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

The information is collected on an as-needed basis to enable the NRC to resolve safety issues affecting more than one plant. If the NRC does not request the information when it is needed, the health and safety of the public could be affected adversely.

#### 7. Circumstances Which Justify Variation from OMB Guidelines

Thirty days or more are allowed to respond. However, in some instances for urgent actions, responses are requested in less than thirty days. This shortened time period is necessary to ensure that NRC is able to obtain significant safety information promptly so as to be able to take effective action to protect public health and safety.

#### 8. Consultations Outside the NRC

The opportunity for public comment on the information collections requirements for this clearance package was published in the *Federal Register* on March 2, 2010 (75 FR 9444). No comments were received.

#### 9. Payment or Gift to Respondents

Not applicable.

#### 10. Confidentiality of Information

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17(a) and 10 CFR 2.390(b). However, no information normally considered confidential or proprietary is requested.

#### 11. Justification for Sensitive Questions

This information collection does not involve sensitive information.

#### 12. Estimated Industry Burden and Burden Hour Cost

The number of operating license (OL) holders and construction permit holders affected by a particular bulletin or generic letter and the associated burden varies in each specific instance.



**For non-power reactors**, it is estimated that 32 non-power reactor licensees would respond to one anticipated request related to a safety emergency. It is estimated that it would take each licensee approximately 100 hours to respond to each safety emergency to conduct an inspection, prepare an analysis or evaluation, and submit results. This will result in an annual burden of 100 hours to each non-power reactor licensee (100 hours for one safety event) and approximately 3,200 industry burden hours annually (32 reactors x 100 hours per reactor) for a cost of \$822,400 (3,200 hours x \$257). With the approval of the PTS final rule, this will increase the burden for this section by 6,560 hours.

**For power reactors**, an upper bound is used which assumes that all of the 104 licensees for operating plants and 2 construction permittees would respond to each of approximately 3 bulletins and generic letters issued annually containing reporting requirements. (Although unlikely, generic communications could also involve permanently shutdown nuclear power reactors; however, the NRC staff has assumed that none will be affected.) It is estimated that it would take each licensee approximately 420 hours to respond to each bulletin and 500 hours to each generic letter. This will result in approximately 147,680 burden hours for responses (420 hours x 1 bulletin + 500 x 2 generic letters = 1,420 hours; 1,420 hours x 106 plants = 150,520 hours at a cost of \$38,683,640 [150,520 hours x \$257/hr]).

**For materials licensees**, the number of licensees affected by a particular bulletin or generic letter would vary widely depending on the license category. For purposes of burden estimates, it is assumed that, on average, approximately 100 licensees would be affected. It is anticipated that there may be one bulletin and one generic letter directed to materials licensees annually that contain reporting or recordkeeping requirements. It is estimated that the burden for each response to a bulletin would be approximately 100 hours and the burden for each response to a generic letter would be approximately 100 hours. Thus, for materials licensees, the estimated burden would be 10,000 hours annually for bulletins (100 licensees x 1 x 100 hours) and 10,000 hours annually for generic letters (100 licensees x 1 x 100 hours). The total industry burden for materials licensees would thus be 20,000 hours at a cost of \$5,140,000 (20,000 hrs x \$257/hr).

Therefore, total annual industry burden is expected to be 180,280 hours (3,200 + 150,520 + 20,000 hours). Thus the cost would be \$44,646,040 (\$822,400 + \$38,683,640 + \$5,140,000).

The NRC staff estimates that of the 173,720 hour burden, 10 percent (17,372 hours) is recordkeeping associated with submitting a response, and 90 percent (156,348 hours) is reporting. The NRC anticipates a total of 550 responses annually (32 x 1 non-power reactor bulletins/generic letters + 106 x 3 reactor bulletins/generic letters = 318 + 100 materials generic letters + 100 materials bulletins).

### 13. Estimate of Other Additional Costs

The NRC has determined that the quantity of records to be maintained is roughly proportional to the recordkeeping burden and, therefore, can be used to calculate approximate records storage costs. Based on the number of pages maintained for a typical clearance, the records storage cost has been determined to be equal to 0.0004

times the recordkeeping burden cost. Because the recordkeeping burden is estimated to be 7 hours, the storage cost for this clearance is \$1,786 (17,372 hours x 0.0004 x \$257/hour).

14. Estimated Annualized Cost to the Federal Government

The estimate of the cost to the Government, which includes the preparation of 3 reactor-related and 2 materials-related bulletins or generic letters, mailing, and analysis of responses, is estimated at 2,500 hours per reactor-related bulletin or generic letter, or 7,500 hours annually (2,500 hours X 3), and 2,000 hours per materials-related bulletin or generic letter, or 4,000 hours annually (2,000 hours x 2). Therefore, the total annual estimated cost to the Government is \$2,955,500 (11,500 hours x \$257/hour).

This cost is fully recovered by fee assessments to NRC licensees pursuant to 10 CFR 170 and/or 10 CFR 171.

15. Reasons for Changes in Burden or Cost

Overall, there has been a small net increase in burden of 10,280 hours (170,000 hours to 180,280 hours), as noted in the following. This increase is a function of the specific addressing of non-power reactors, specific addressing of construction permits (+ 2,840 hours) a reduction of hours for power reactors (-8,320 hours), and an increase in hours for materials licensees (+6,000 hours). The reduction of hours associated with power reactor licensees involves a decrease in the assessment of the response need for bulletins (-80 hours/response x 104 responses). Actual experience has shown that bulletins are rarely issued to materials licensees and security responses have likewise been reduced.

The reduction of security responses is due to a re-scoping by agency direction of the security advisory (SA) to reduce information collections and reporting. This change in scope of SAs that directs that an SA may not –

- convey or imply new requirements or new interpretations of existing requirements or guidance;
- require information from or action by addressees;
- be used in lieu of other generic communication products, and
- provide guidance for the implementation rules and regulations

along with the reduction in actual experience results in an aggregate burden reduction for licensees.

The increase in hours for materials licensees involves an increase in the assessment of the response for a bulletin (100 hours/response x 100 responses) versus the previously assessed of time of 40 hours/response x 100 responses.

In addition, the burden increased by 6,560 hours which resulted from the Aircraft Impact final rule,

There has been a change to the hourly cost rate from \$217 to \$257 for all reactor licensees and from \$214 to \$257 for materials licensees.

16. Publication for Statistical Use

The collected information is not published for statistical purposes.

17. Reason for Not Displaying the Expiration Date

The OMB approval number and expiration date are included in all generic communications.

18. Exceptions to the Certification Statement

None.

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

Not applicable.

FINAL SUPPORTING STATEMENT  
FOR  
ANNUAL FINANCIAL REPORT AND OTHER FINANCIAL REQUIREMENTS 10 CFR

50.71(b); 10 CFR 50 Appendix C, Section III; and, 10 CFR 50.76

DESCRIPTION OF THE INFORMATION COLLECTION

The requirement for the annual financial report, including the certified financial statements, arises from the Atomic Energy Act of 1954, as amended, Section 182, "License Applications." Section 182(a) provides, among other things, that each application for a license shall state such information as the Commission, by rule or regulation, may determine to be necessary to decide the financial qualifications of the applicant as the Commission may deem appropriate for the license. Annual financial reporting is specified in 10 CFR Section 50.71(b) and 10 CFR 50 Appendix C, Section III. 10 CFR 50 Appendix C, Sections I and II, specify the financial data and related information required to establish financial qualifications for facility construction permits. The burden for 10 CFR 50 Appendix C, Sections I and II, is addressed in the Section 1 Supporting Statement.

The annual financial reporting requirement affects 104 power reactor licensees (including co-owners), and 33 non-power testing facilities.

10 CFR 50.76 was created as a rulemaking in December 2003, (69 FR 4448, Jan. 30, 2004), to segregate a requirement from 10 CFR 50.33(f)(2) to ensure a power reactor licensee that transitions from a utility to a non-electric-utility status, and is not subject to 10 CFR 50.80 requirements, submits financial qualifications information. This has never happened, nor is it expected to happen, but if it did, this section explicitly tells licensees of the requirement.

JUSTIFICATION

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

10 CFR 50.71(b) requires licensees and holders of construction permits to file with the Commission annual financial reports, including certified financial statements. This requirement is also specified in 10 CFR 50 Appendix C, Section III, for holders of construction permits. The fundamental purpose of the financial qualifications provision is the protection of public health and safety and the common defense and security. A licensee's or holder's (including a co-owner's) financial resources may affect its ability to meet its responsibilities on safety matters.

The Commission reserves the right to require additional financial information during construction or operation of a facility, particularly in cases in which the nuclear power plant will be commonly owned by two or more existing companies, or in which financing depends upon long-term arrangements for the sharing of the electric power output of the facility by two or more electric power generating companies.

The annual financial report provides financial information after a construction permit has been issued for a nuclear power plant.

10 CFR 50.76 requires power reactor licensees that transition from an electric utility status to a non-electric utility status, without a license transfer, to submit financial qualifications information as specified in 10 CFR 50.33(f)(2). The financial qualifications information must address the first full five years of operation after the date the licensee ceases to be an electric utility.

2. Agency Use of Information

The annual financial reports, and any other pertinent material that may be needed, are used by the Nuclear Regulatory Commission (NRC) staff for financial monitoring of the respondents individually, and of the industry as a whole. If it appears that any respondent is experiencing financial difficulties, this information is useful for NRC consideration of any appropriate actions.

3. Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them. NRC issued a regulation on October 10, 2003, (68 FR 58791), consistent with the Government Paperwork Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, e-mail, special Web-based interface or other means. It is estimated that approximately 95% of the potential responses are filed electronically.

4. Effort to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of requirements. NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections.

The information requested in 10 CFR 50.71(b) and 10 CFR 50 Appendix C, Section III, is not required by any other regulation. The financial information required by 10 CFR 50.33(f) for applications for construction permits and operating licenses is used to establish financial qualifications needed before NRC can approve the applications and is not duplicated here (see the Section 1 Supporting Statement).

There is no source for the required information other than nuclear reactor licensees/construction permit holders, including co-owners.

5. Effort to Reduce Small Business Burden

This information collection does not affect small business as defined by the size standard adopted by NRC in 10 CFR 2.810.

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

If the information is not submitted when required, there could be a situation where a licensee's financial resources are questionable, which could affect the licensee's ability to meet responsibilities on safety matters.

7. Circumstances which Justify Variation from OMB Guidelines

This information collection does not vary from the Office of Management and Budget guidelines.

8. Consultations Outside the NRC

The opportunity for public comment on the information collections requirements for this clearance package was published in the *Federal Register* on March 2, 2010 (75 FR 9444). No comments were received.

9. Payment or Gift to Respondents

Not applicable.

10. Confidentiality of Information

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17(a) and 10 CFR 2.390(b). However, no information normally considered confidential or proprietary is requested.

11. Justification for Sensitive Questions

This information collection does not require sensitive information.

12. Estimated Industry Burden and Burden Hour Cost

Responses are required from about 104 power reactor licensees, including co-owners, and 33 non-power testing facilities. The NRC staff's best estimate is that approximately one hour is needed by industry to respond to these annual reporting requirements. Therefore, there is 137 hours of industry burden at a cost of \$35,209 (\$257 x 137). Staff estimates that of this burden, approximately 10 percent (14 hours) is attributable to recordkeeping associated with the submittal, and the remainder (123 hours) is reporting.

If a response under 10 CFR 50.76 were to be received, which is estimated to occur less than once every three years, the burden of approximately 100 hours would be approximately 33 hours per year or \$8481 (100/3 x \$257). However, NRC does not anticipate receiving a response under 10 CFR 50.76 during the reporting period.

13. Estimate of Other Additional Costs

The NRC has determined that the quantity of records to be maintained is roughly proportional to the recordkeeping burden and, therefore, can be used to calculate approximate records storage costs. Based on the number of pages maintained for a typical clearance, the records storage cost has been determined to be equal to 0.0004 times the recordkeeping burden cost. Because the recordkeeping burden is estimated to be 14 hours, the storage cost for this clearance is \$1.44 (14 hours x 0.0004 x \$257/hour).

14. Estimated Annualized Cost to the Federal Government

It is estimated that approximately one hour of staff effort is required to review each of the 137 annual submittals. Therefore, total cost to the Federal government is expected to be \$35,209 (\$257 x 137). This cost is fully recovered through fee assessments to NRC licensees pursuant to 10 CFR 170 and/or 10 CFR 171.

15. Reasons for Changes in Burden or Cost

The estimated burden has changed from 130 hours to 137 hours (an increase of 7 hours). The estimate for the number of respondents in the previous clearance period was 97 power reactors and 33 non-power testing facilities (a total of 130 respondents) each providing one response. In the current clearance, the NRC has corrected and adjusted the number of respondents to 104 power reactors and 33 non-power testing facilities (a total of 137 respondents). The upward adjustment of 7 respondents, at one hour per response, has increased the burden by 7 hours. The hourly cost increased from \$217 to \$257.

16. Publication for Statistical Use

The collected information is not currently 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.

Section 27

FINAL SUPPORTING STATEMENT  
FOR  
PERIODIC UPDATE OF THE FINAL SAFETY ANALYSIS REPORT (FSAR)

10 CFR 50.71(e), 50.71(f), 50.71(e)(1), 50.71(e)(2), 50.71(e)(3), 50.71(e)(4),  
50.71(e)(5), 50.71(e)(6), and 10 CFR 50.68(b)(8)

DESCRIPTION OF THE INFORMATION COLLECTION

10 CFR 50.71(e) and 10 CFR 50.71(f) require each licensee of a nuclear power reactor to periodically update the Final Safety Analysis Report (FSAR) originally submitted as part of the application for the operating license, to assure that the information included in the FSAR contains the latest material developed. 10 CFR 50.71(e) is applicable to power reactors licensed to operate. 10 CFR 50.71(f) states that provisions of this section apply to power reactor licensees that have submitted the certification of permanent cessation of operations required under 10 CFR 50.82(a)(1)(i). This submittal must contain all of the changes necessary to reflect information and analyses submitted to the Commission by the licensee, or prepared by the licensee pursuant to Commission requirement, since the submission of the original FSAR or the last updated FSAR. The updated FSAR must be revised to include the effects of all changes made in the facility or to procedures as described in the FSAR; all safety analyses and evaluations performed by the licensee, either in support of approved license amendments or in support of conclusions that changes did not require a license amendment in accordance with Section 50.59(c)(2); and, all analyses of new safety issues performed by, or on behalf of, the licensee at Commission request.

10 CFR 50.71(e)(1) requires licensees to submit revisions containing the updated FSAR information on a replacement-page basis, accompanied by a list which identifies the current pages of the FSAR following page replacement.

10 CFR 50.71(e)(2) requires that FSAR-update submittals include a certification by a duly authorized official of the licensee that either the information accurately presents changes made since the previous submittal, necessary to reflect information and analyses submitted to or required by the Commission, or that no such changes were made; and an identification of changes made under the provisions of 10 CFR 50.59 but not previously submitted to the Commission.

10 CFR 50.71(e)(3) requires a revision of the original FSAR containing those original pages that are still applicable plus new replacement pages to be filed with 24 months of either July 22, 1980, or the date of issuance of the operating license, whichever is later, and shall bring the FSAR up to date as of a maximum of 6 months prior to the date of filing the revision.

10 CFR 50.71(e)(4) requires the filing of revisions annually or 6 months after each refueling outage provided the interval between successive updates to the FSAR does not exceed 24 months. The revisions must reflect all changes up to a maximum of 6 months prior to the date of filing. For nuclear power reactor facilities that have submitted 10 CFR 50.82(a)(1) certifications, subsequent revisions must be filed every 24 months.



10 CFR 50.71(e)(5) requires each replacement page to include both a change indicator for the area changed, e.g., a bold line vertically drawn in the margin adjacent to the portion actually changed, and a page change identification (date of change or change number or both).

10 CFR 50.71(e)(6) requires licensees to retain the updated FSAR until termination of the license.

10 CFR 50.68(b)(8) requires licensees to comply with eight specific criticality accident requirements as an alternative to maintaining a monitoring system capable of detecting a criticality as described in 10 CFR 70.24. Should licensees elect to comply with 10 CFR 50.68(b), they are required to indicate that it has chosen to comply with 10 CFR 50.68 in lieu of 10 CFR 50.74 as part of its FSAR update (in accordance with 10 CFR 50.71(e)).

## A. JUSTIFICATION

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

The volume of written information in the docket files of operating power reactors is large and is increasing at a rapid rate. By the time a power reactor has been in operation for a few years, much of the information in the original FSAR has been modified, supplemented or superseded. This comes about by the applicant's submittal of designs and analyses supporting requested license amendments or technical specification changes, replies to regulatory requests, incident reports, and reports describing design and procedural changes. Consequently, without an updated FSAR, it would be difficult for anyone, including an NRC staff member, the licensee, or the public, to be certain of the current status of a facility's design and supporting analyses.

To properly execute their respective responsibilities, the NRC staff and the licensee must work with accurate information. The updated FSAR is a reference document used in recurring safety analyses performed by the licensee, the Commission, and other interested parties. Thus, it is essential that supplements and amendments to the original information be appropriately incorporated into the original FSAR to create a single, complete, and integrated document. This document serves as the baseline for future changes.

In general, it is not difficult to identify correct information for newly-licensed facilities, but it would become a problem in a few years without this update requirement. In addition, as new staff members and licensee employees are assigned to plants with extensive licensing history and are involved in analyses and decisions affecting facility operation, the possibility of error and risk to the public would increase without an accurate, updated, reference document.

10 CFR 50.30(a)(3) recognizes the update need by requiring that the applicant for a construction permit update its application, which includes the Preliminary Safety Analysis Report, to eliminate superseded information and provide an index of the updated application when an Atomic Safety and Licensing Board is appointed prior to public hearing. If an operating license hearing is held, the application must be updated at that time. After the operating license is issued, various sections of 10 CFR 50 (10 CFR 50.59, for example) require that additional safety analyses be

performed for individual facility changes that affect facility safety. The present regulations reflected in 10 CFR 50.71(e) require that such changes be incorporated into the FSAR.

All changes to the technical specifications are treated as license amendments and it is appropriate to have an updated FSAR available at all times. Additionally, safety evaluations, after operation of the facility has been initiated, required by proposed license amendments, technical specification changes and other reasons, warrant at least the same supporting documentation as does the hearing process.

## 2. Agency Use of Information

In addition to the needs discussed above, updated FSARs are used for a variety of other reasons such as:

- a. To evaluate proposed changes, tests or experiments made pursuant to 10 CFR 50.59.
- b. To support NRC staff reviews of license amendments.

For operator training by licensees.

- d. For project manager training and orientation.
- e. A reference document for management and for safety review committees.
- f. By NRC staff to assist in inspections to ensure that licensees are maintaining the basis upon which their plants are licensed.
- g. By licensing examiners to prepare exams for facility operators.
- a. In planning emergency responses.
- i. To evaluate operating data by NRC staff.

The NRC staff utilizes the updated information supplied by licensees in response to the reporting required by 10 CFR 50.71(e) as a primary reference source to be employed during the numerous safety studies undertaken by licensees, the Commission, and other interested parties.

## 3. Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them. The NRC issued a regulation on October 10, 2003 (68 FR 58791), consistent with the Government Paperwork Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, e-mail, special Web-based interface or other means. It is estimated that approximately 10% of the potential responses are filed electronically.

1. Effort to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of requirements. The NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections.

1. Effort to Reduce Small Business Burden

This information collection only involves licensees of nuclear power reactors and, therefore, does not affect small business.

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

If the collection is not conducted or is conducted less frequently, NRC staff members and licensee employees would not have a single, organized up-to-date reference document for the plant. The NRC would be unable to effectively carry out its regulatory responsibilities.

1. Circumstances Which Justify Variation from OMB Guidelines

The updated FSAR must be retained until the operating license is terminated because, in order for the NRC to ensure the health and safety of the public at all times, the staff must be certain of the current status of a facility's design and supporting analysis.

8. Consultations Outside the NRC

The opportunity for public comment on the information collections requirements for this clearance package was published in the *Federal Register* on March 2, 2010 (75 FR 9444). No comments were received.

9. Payment or Gift to Respondents

Not applicable.

10. Confidentiality of Information

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17(a) and 10 CFR 2.390(b).

11. Justification for Sensitive Questions

This information collection does not require sensitive information.

12. Estimate of Annualized Burden and Burden Hour Cost

Since operating nuclear power reactors may submit updated FSARs annually or 6 months after each refueling outage, approximately 69 of 104 licensees (or respondents) will be affected by this reporting requirement annually. It is estimated that there will be one response per respondent. The average burden per licensee for the updating is estimated to be 1,000 hours. Therefore, the annual burden for licensees of operating plants is 69,000 hours (69 x 1000).

Since updated FSARs for nuclear power reactors that have ceased operation must be filed every 24 months, approximately 7 of 14 licensees (or respondents) will be affected by this reporting requirement annually. It is estimated that there will be one response per respondent. The average burden per licensee of these reactor facilities is estimated to be 250 hours. Therefore, the annual burden for licensees of permanently shutdown plants is 1,750 hours (7 x 250).

A total estimated 76 responses (76 respondents x 1 response per respondent) yields a total estimated annual burden to licensees of 70,750 hours (69,000 + 1,750 hours) at a cost of \$18,182,750 (70,750 hours x \$257). Staff estimates that of this burden, 63,675 hours are attributable to reporting (approximately 90 percent of the total burden) and 7,075 hours are attributable to recordkeeping (approximately 10 percent of the total burden).

TOTAL BURDEN/COST: 70,750 hours (63,675 hrs reporting plus 7,075 hrs recordkeeping)/\$18,182,750

TOTAL RESPONDENTS: 76

TOTAL RESPONSES: 152 (76 responses + 76 record keepers)

13. Estimate of Other Additional Costs

The NRC has determined that the quantity of records to be maintained is roughly proportional to the recordkeeping burden and, therefore, can be used to calculate approximate records storage costs. Based on the number of pages maintained for a typical clearance, the records storage cost has been determined to be equal to 0.0004 times the recordkeeping burden cost. Because the recordkeeping burden is estimated to be 7,075 hours, the storage cost for this clearance is \$727 (7,075 hours x 0.0004 x \$257/hour).

14. Estimated Annualized Cost to the Federal Government

The NRC anticipates that approximately 10 staff hours per submittal will be involved annually in the handling and document control/filing systems of the updated FSAR for each operating nuclear power reactors. Thus, annual estimated cost to the Federal Government for these facilities is expected to be \$177,330 (10 staff hrs x 69 plants = 690 staff hours; \$257/hr x 690 staff hours = \$177,330). The estimated Federal burden for permanently shutdown reactors is 2 staff hours per plant. The annual estimated cost for these facilities is thus \$3,038 (2 hours x 7 plants = 14 hours; \$257/hr x 14 = \$3,598). The total annual cost to the Federal government is therefore \$180,928 (\$177,330 + \$3,598). This cost is fully recoverable through fee assessments to the licensees pursuant to 10 CFR 170 and/or 10 CFR 171.

15. Reasons for Changes in Burden or Cost

The overall burden has remained the same. There was a change in cost because the hourly rate increased from \$217/hr to \$257/hr.

16. Publication for Statistical Use

The information is not published 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.

Section 28

FINAL SUPPORTING STATEMENT  
FOR  
REACTOR EVENT REPORTING REQUIREMENTS

10 CFR 50.54(z), 10 CFR 50.72(a)(1), 10 CFR 50.72(a)(2), 10 CFR 50.72(a)(3),  
10 CFR 50.72(a)(4), 10 CFR 50.72(b)(1), 10 CFR 50.72(b)(2), 50.72(b)(3), 50.72(c),  
and 10 CFR 50 Appendix E

DESCRIPTION OF INFORMATION COLLECTION

The NRC Emergency Response Data System (ERDS) is the Information Technology (IT) that collects plant performance and environmental data for NRC and State emergency personnel to analyze during emergencies or drills.

10 CFR 50.54(z) makes it a license condition that each licensee licensed under Sections 103 or 104b of the Atomic Energy Act shall make the notifications specified in 10 CFR 50.72.

10 CFR 50.72(a)(1) and 10 CFR 50.72(a)(2) require that each power reactor licensee notify the NRC of specified events via the Emergency Notification System (ENS). If the ENS is inoperable, the licensee shall make the notifications via commercial telephone or other means. Many of these events are also subject to follow-up written reports as required by 10 CFR 50.73. These written follow-up reports are covered by a separate OMB clearance, 3150-0104.

10 CFR 50.72(a)(3) specifies notification immediately after notification of State and local authorities and not later than one hour after the licensee declares one of the Emergency Classes. Activation of the Emergency Response Data System (ERDS), as required by 10 CFR 50.72(a)(4), is covered in Section 29 of this clearance.

10 CFR 50.72(b)(1) requires notification as soon as practical and in all cases within one hour of the occurrence of any deviation from the plant's Technical Specifications authorized pursuant to 10 CFR 50.54(x).

10 CFR 50.72(b)(2) requires notification as soon as practical and in all cases within 4 hours of events such as plant shutdown required by Technical Specifications, an event that results or should have resulted in an emergency core cooling system discharge into the reactor coolant, an event that results in actuation of the reactor protection system, or any event or situation related to the health and safety of the public or protection of the environment for which a news release is planned.

10 CFR 50.72(b)(3) requires notification as soon as practical and in all cases within 8 hours of events such as (1) an event or condition that results in the nuclear power plant or any of its principal barriers being seriously degraded or the nuclear plant being in an unanalyzed condition that degrades plant safety; (2) events or conditions that result in valid actuation of specified safety systems; (3) events or conditions that could have prevented fulfillment of the safety condition of structures and systems needed to shut down and maintain the reactor in a safe condition, remove residual heat, control the release of radioactive material, and mitigate the

consequences of an accident; (4) hospitalization of contaminated personnel; and (5) any event that results in a major loss of communications or emergency assessment capability.

10 CFR 50.72(c) requires that during the course of the event, the licensee shall: (1) immediately report any further degradation, any change of Emergency Class, (2) the results of ensuing evaluations, the effectiveness of response or protective measures, or plant behavior that is not understood; and (3) maintain an open, continuous communication channel with the NRC Operations Center upon request by the NRC.

10 CFR Part 50, Appendix E, Paragraph E.9.d., requires each licensee to perform monthly testing from the control room, the technical support center (TSC) and the emergency operations facility (EOF). Additionally, the ENS system is exercised each morning, usually between the hours of 0400 and 0800 Eastern Time, by the Headquarters Operations Officer's placement of a call to each licensed facility to collect voluntary reactor status and grid information.

These reporting requirements affect 104 currently licensed to operate nuclear power plants.

## 2. JUSTIFICATION

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

The NRC staff evaluates the information transmitted to the Commission in response to these reporting requirements and makes timely decisions required to provide adequate assurances regarding actual or potential threats to public safety. In addition, operational experience feedback is required to meet the NRC's statutory requirements for regulating the nuclear industry.

### 2. Agency Use of Information

The events reported under 10 CFR 50.72 are assessed immediately to determine the adequacy of emergency response actions, if needed. They are also assessed both individually and collectively to determine their safety significance and their generic implications and to identify any safety concerns with the potential to seriously impact public health and safety. The evaluation of these events provides valuable insights on improving reactor safety. Additionally, the reports are provided to the public in order to increase public confidence by demonstrating the NRC operates in a transparent manner.

### 3. Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them. The NRC issued a regulation on October 10, 2003 (68 FR 58791), consistent with the Government Paperwork Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, e-mail, special Web-based interface or other means. However, 10 CFR 50.72 requires that all information be communicated via an Emergency Notification System (ENS) or via a commercial telephone service if the ENS is inoperative. Therefore it is estimated that no information will be filed electronically.

#### 4. Effort to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of requirements. The NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections.

#### 5. Effort to Reduce Small Business Burden

These reporting requirements only affect nuclear power reactor licensees. Therefore, there is no burden on small business.

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

Not collecting this data or less frequent data collection would, in general, substantially reduce the NRC's ability to respond promptly to emergencies and would degrade the NRC's ability to assess operating experience and act on the lessons learned in a timely manner, including corrective actions to prevent recurrences.

#### 7. Circumstances which Justify Variation from OMB Guidelines

Notification of significant events is needed within one to eight hours to ensure that the NRC promptly responds to situations with the potential to seriously impact public health and safety. Additionally, it allows the NRC to be informed of significant events in order to respond to public inquiries.

#### 8. Consultations Outside the NRC

The opportunity for public comment on the information collections requirements for this clearance package was published in the *Federal Register* on March 2, 2010 (75 FR 9444). No comments were received.

#### 9. Payment or Gift to Respondents

Not applicable.

#### 10. Confidentiality of Information

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17(a) and 10 CFR 2.390(b). However, the receipt of confidential information is not anticipated.

#### 11. Justification for Sensitive Questions

The subject regulations do not request sensitive information.

#### 12. Estimated Industry Burden and Burden Hour Cost



Based on experience in recent years, it is estimated that about 500 reports per year will be received in response to 10 CFR 50.72. The burden for each call is estimated to be 90 minutes (1.5 hours). Therefore, the total annual burden would be about 750 person hours (1.5 hours x 500 reports) = 750 hours. At \$257 per person hour, the annual cost to industry would be about \$192,750. Staff estimates that of this burden, 10 percent (75 hours) is attributable to recordkeeping associated with the requirement, and 90 percent (675 hours) is reporting.

During the daily testing of the ENS system by the Headquarters Operations Officer, voluntary reactor status and grid information is collected. The burden to each licensee to submit this information is estimated to be 5 minutes for a total of 3,151 hours (.083hrs X 104 licensees X 365 days/yr) for all licensees annually at a cost of \$809,807 (3,151 hrs X \$257/hr).

The total industry burden is therefore 3,901 hours (75 hours recordkeeping + 3826 hours reporting [675 hours for 10 CFR 50.72 notifications + 3,151 hours for daily status reporting) at a cost of \$1,002,557 (3,901 hrs X \$257/hr).

Total number of respondents = 104

Total number of responses = 38,460 (500 + 104 X 365 days/yr).

The estimated cost per burden hour is based upon NRC=s annual fee recovery rate, as published in NRC=s annual fee recovery rule.

### 13. Estimate of Other Additional Costs

The NRC has determined that the quantity of records to be maintained is roughly proportional to the recordkeeping burden and, therefore, can be used to calculate approximate records storage costs. Based on the number of pages maintained for a typical clearance, the records storage cost has been determined to be equal to 0.0004 times the recordkeeping burden cost. Because the recordkeeping burden is estimated to be 75 hours, the storage cost for this clearance is \$8.00 (75 recordkeeping hours x 0.0004 x \$257/hour).

### 14. Estimated Annualized Cost to the Federal Government

#### Event Analysis

The cost to the Federal government is estimated as follows:

a. Office of Nuclear Reactor Regulation - 4.25 person years (2,080 person hours/per year x 4.25 person years = 8,840 person hours) 8,840 x \$257 = \$2,271,880.

b. Four Regional offices - 1 person year each (2,080 person hours x 4 = 8,320 person hours) 8,320 x \$257 = \$2,138,240.

#### Event Report Receipt

- a. Two operations officers on shift 7 days per week, 24 hours per day, every day of the year (24 hours/day x 365 days/yr x 2) for a total of 17,520 hours x \$257 = \$4,502,640 annually.
- b. The projected cost of maintaining the emergency telecommunications system (ETS) (Direct Access Lines) is estimated at \$320,000 per year during this clearance period. The reduction in cost from the previous clearance of \$550,000 to \$320,000 is attributed to the reduced participation of the licensees use of the phone lines associated with the ETS. The licensees may have found a cost efficient alternative to the ETS system.

Review of Voluntary Reactor Status and Grid Information

The cost to the Federal government to analyze reactor status and grid information is estimated as follows:

NRC employee evaluation of the information is estimated at 30 minutes for all licensees any given day for a total of 183 hours annually (.5 hrs/day X 365 days/yr) at a cost of \$47,031 (183 hours X \$257).

Reactor Operating Experience

The Reactor Operating Experience application allows regional and Headquarters users to create reports and view Event Notifications and Power Reactor Status data. The cost of this process is \$85,000 per year.

Based on the above, the annual Federal cost associated with these regulations is estimated to be (\$2,271,880 + \$2,138,240 + \$4,502,640 + 320,000 + \$47,031 + \$85,000) = \$9,364,791. The estimated cost per burden hour is based upon NRC=s annual fee recovery rate, as published in NRC=s annual fee recovery rule. This cost is fully recovered through fee assessments to NRC licensees pursuant to 10 CFR 170 and/or 10 CFR 171.

15. Reasons for Changes in Burden or Cost

The number of event reports estimated to be received per year and the burden for each call remain unchanged from the previous period. The burden for the voluntary submission of reactor status and grid information also remains unchanged from the previous period. The estimated licensee cost has increased slightly based on the increase of the burden cost from \$217 to \$257 per hour. The estimated cost per burden hour is based upon NRC=s annual fee recovery rate, as published in NRC=s annual fee recovery rule.

16. Publication for Statistical Use

The collection information is not published 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

There are no exceptions.

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

Not applicable.

FINAL SUPPORTING STATEMENT FOR  
EMERGENCY RESPONSE DATA SYSTEM

10 CFR 50.72(a)(ii)(4) and 10 CFR 50 Appendix E.VI

DESCRIPTION OF THE INFORMATION COLLECTION

Each nuclear power reactor licensee is required to establish and maintain an Emergency Response Data System (ERDS) for all operating nuclear power reactor facilities except for exempt plants or those that are permanently or indefinitely shut down.

A. JUSTIFICATION

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

The Emergency Response Data System (ERDS) is a direct electronic data link between operating reactor computer data systems and the NRC Operations Center (NRCOC) used during the declaration of an alert or higher emergency classification. The ERDS supplements the voice transmission of information over the currently installed Emergency Notification System (ENS) and is activated by a licensee when an alert or higher emergency occurs at a licensed nuclear power facility. ERDS provides NRC with a reliable and effective communication system that allows the NRC to monitor critical parameters during an emergency at operating power reactors.

10 CFR 50.72(a)(ii)(4) requires the licensee to activate the ERDS as soon as possible but not later than one hour after declaring an emergency class of alert, site area emergency, or general emergency.

10 CFR 50 Appendix E.VI, Emergency Planning and Preparedness for Production and Utilization Facilities

10 CFR 50 Appendix E.VI.1 requires that licensees test the ERDS periodically to verify system availability and operability. The frequency of ERDS testing is quarterly unless otherwise set by NRC based on demonstrated system performance.

10 CFR 50 Appendix E.VI.2.a requires that computer systems transmit in-plant data points for pressurized water reactors or boiling water reactors if the data points are resident in the in-plant computer.

10 CFR 50 Appendix E.VI.2.b requires the selected parameter sets of data to be transmitted at time intervals of not less than 15 seconds or more than 60 seconds.

10 CFR 50 Appendix E.VI.2.c requires all link control and data transmission be established in a format compatible with the NRC receiving system.

10 CFR 50 Appendix E.VI.3.a requires that any hardware or software changes that affect the transmitted data points identified in the ERDS Data Point Library (site specific data base residing on the ERDS computer) must be reported to the NRC within 30 days after changes are completed.

10 CFR 50 Appendix E.VI.3.b requires that NRC be notified as soon as practicable and at least 30 days prior to any changes to computer hardware or software, with the exception of data point modifications, that could affect the transmission format and the ERDS computer communication protocol.

10 CFR 50 Appendix E.VI.4.a required the licensees to develop and submit an ERDS implementation program plan to the NRC by October 28, 1991.

2. Agency Use of Information

The real-time data that ERDS provides allows the NRC to fulfill its role to monitor plant conditions during an on-site alert or higher emergency at a nuclear power facility. In addition, information concerning any computer system hardware and software changes must be reported to the NRC to ensure system operational compatibility.

3. Reduction of Burden through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them. NRC issued a regulation on October 10, 2003 (68 FR 58791), consistent with the Government Paperwork Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, e-mail, special Web-based interface or other means. However, codification of the ERDS rule reduces the burden on licensees for telephonic voice transmission of data to the NRC during an emergency by use of a real-time data link. Information concerning the system changes is unique to each licensee and is submitted infrequently under the requirements of this rule, and therefore, will not be adaptable to automated routine information technology. It is estimated that approximately 100% of the potential responses are filed electronically.

4. Efforts to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of requirements. NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections.

5. Effort to Reduce Small Business Burden

These requirements do not impact small business. The respondents are nuclear power plant licensees.

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

Required reports are collected and evaluated on a continuing basis as events occur. If the information is not collected during an alert or higher emergency, the NRC would have to rely on less accurate and less timely means that could affect the protection of public health and safety. The schedule for collecting the information is the minimum frequency, which will permit NRC to assure that public health and safety are adequately protected.

7. Circumstances which Justify Variation from OMB Guidelines

Contrary to the OMB guidelines in 5 CFR 1320.6(b), these sections of 10 CFR 50 requires that licensees submit reports and transmit real-time data to the NRC.

The requirements of 10 CFR 50.72(a)(ii)(4) provide for electronic real-time transmittal of data to the NRC via ERDS during an alert or higher emergency at a nuclear power facility so that NRC has information needed to fulfill its role for protection of public health and safety.

10 CFR 50 Appendix E.VI.3.a and 10 CFR 50 Appendix E.VI.3.b require a report within 30 days of any hardware or software changes that affect the transmitted data point identified in the Emergency Response Data System Data Point Library (data base) and changes that could affect the transmission format and communication protocol. This information is needed by the NRC to ensure that any system changes will not affect the ability to transmit critical parameters of a limited set of data to NRC so that NRC can fulfill its role to monitor a nuclear power reactor during an on-site alert or higher emergency to protect public health and safety.

8. Consultations Outside the NRC

The opportunity for public comment on the information collections requirements for this clearance package was published in the *Federal Register* on March 2, 2010 (75 FR 9444). No comments were received.

9. Payment or Gift to Respondents

Not applicable.

10. Confidentiality of Information

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17(a) and 10 CFR 2.390(b). However, no information normally considered confidential or proprietary is requested.

11. Justification for Sensitive Questions

The subject information collections do not involve sensitive information.

12. Estimated Industry Burden and Burden Hour Cost

There are 104 licensees affected by this rule; however, except for quarterly testing, only a small percentage of licensees are expected to submit a response each year. The table below reflects this and is based on NRC staff's best estimate.

INDUSTRY BURDEN AND BURDEN HOUR COST

Annualized Requirement	Responses Annually	Burden per Response (Staff Hour)	Total Amount of Burden (Staff Hour)	Annual cost at \$257/Hour
50.72(A)(ii)(4)	7	4	28	\$7,196
Appendix E, VI.1 Periodic Testing	412	4	1,648	\$423,536
Appendix E, VI: 2.a, 2.b, & 2.c	(Detail requirements of 50.72(a)(ii)(4))			
Appendix E, VI.3.a	14	12	168	\$43,176
Appendix E, VI.3.b	2	12	24	\$6,168
Appendix E, VI.4.a	Complete			
Totals	435	4.3*	1,868	\$480,076

\* Average burden - Staff Hours

Based upon the staff estimates for the total burden reflected above, 10 percent (187 hours) is attributable to recordkeeping associated with the requirement, and 90 percent (1,681 hours) is reporting.

13. Estimate of Other Additional Costs

The quantity of records to be maintained is roughly proportional to the recordkeeping burden and therefore can be used to calculate approximate records storage costs. Based on the number of pages maintained for a typical clearance, the records storage cost has been determined to be equal to .0004 times the recordkeeping burden cost.

Therefore, the storage cost for this clearance is estimated to be \$19 (187 x \$257 X .0004) and therefore is insignificant.

14. Estimated Annualized Cost to the Federal Government

ANNUALIZED BURDEN AND COST TO THE FEDERAL GOVERNMENT

Annualized Requirement	Responses Annually	Burden per Response (Staff Hour)	Total Amount of Burden (Staff Hour)	Annual cost at \$257/Hour
50.72 (a)(ii)(4) Review of Transmitted Data	7	100	700	\$179,900
Appendix E, VI.1 Periodic Testing	412	4	1,648	\$423,536
Appendix E, VI.3.a Review Changes Affecting Data Points	14	16	224	\$57,568
Appendix E, VI.3.b Review Changes Affecting Transmission & Protocol	2	16	32	\$8,224
Appendix E, VI.4.a Review of ERDS Implementation Plan	Complete			
Totals	435	6*	2,604	\$669,228

\* Average burden - Staff Hours

This cost is fully recovered through fee assessments to NRC licensees pursuant to 10 CFR 170 and/or 10 CFR 171.

15. Reasons for Changes in Burden or Cost

Estimated burden for licensees and the Federal Government remain unchanged since the previous reporting period. However, the cost estimates have changed since the last clearance renewal, resulting in an increase in the fee per hour from \$217 to \$257/hour.

16. Publication for Statistical Use

The collection of information under this provision is not published for statistical use.

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.

FINAL SUPPORTING STATEMENT  
FOR  
TRAINING AND QUALIFICATION OF NUCLEAR POWER PLANT PERSONNEL

10 CFR 50.120, 10 CFR 50.120(b)(1) and 10 CFR 50.120(b)(2)

DESCRIPTION OF THE INFORMATION COLLECTION

10 CFR 50.120(b)(1) and 10 CFR 50.120(b)(2) require that applicants and licensees establish, implement, and maintain training programs for certain nuclear power plant personnel. Applicants and licensees are required to maintain and keep available for NRC inspection, records sufficient to document that the requirements of 10 CFR 50.120 have been met. Specifically, documents related to the establishment, implementation, and maintenance of the training programs must be maintained. Documentation demonstrating the job performance qualifications of personnel covered by 10 CFR 50.120, including certain categories of contractor personnel, are to be retained for each individual for the duration of employment.

C. JUSTIFICATION

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

Section 306 of the Nuclear Waste Policy Act of 1982, Public Law 97-425, directed the NRC to promulgate regulations or other appropriate guidance establishing instructional requirements for the training and qualification of civilian nuclear power plant operators, supervisors, technicians, and other appropriate operating personnel. The NRC undertook rulemaking in January 1992.

10 CFR 50.120 requires that each applicant for, and holder of, an operating license for a nuclear power plant establish, implement, and maintain a training program for nuclear power plant personnel that provides qualified personnel to operate and maintain the facility in a safe manner in all modes of operation.

10 CFR 50.120(b)(1) requires that applicants and licensees develop and maintain these training programs with an approach based on job performance requirements. Section 10 CFR 50.120 builds on existing industry practice related to training, therefore, training for the personnel covered by 10 CFR 50.120 has already been developed and implemented by the industry.

10 CFR 50.120(b)(2) requires power plant applicants and licensees to periodically evaluate and revise the training program to reflect industry experience, changes to the facility, procedures, regulations, and quality assurance requirements. 10 CFR 50.120(b)(2) also requires periodic review of the training program by licensee management and requires licensees and applicants to maintain and keep available for NRC inspection, materials sufficient to verify the adequacy of the training programs. Documents related to the establishment, implementation, and maintenance of the training programs must be maintained; documentation

demonstrating the job performance qualifications of personnel performing in positions covered by 10 CFR 50.120, including contractor personnel, must be maintained for each individual for the duration of employment.

2. Agency Use of Information

Requirements for recordkeeping related to the applicants' and licensees' training programs are necessary to allow the NRC to perform inspections necessary to fulfill NRC's statutory authority to verify that training programs are being effectively implemented and result in properly trained nuclear power plant personnel. Routine compliance inspections are not planned.

3. Reduction of Burden through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them. NRC issued a regulation on October 10, 2003 (68 FR 58791), consistent with the Government Paperwork Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, e-mail, special Web-based interface or other means. It is estimated that approximately 0% of the potential responses are filed electronically.

Individual and program training records are unique at each facility and are not developed from other compiled information sources. Additionally, licensees do not provide this information to the NRC, it is retained on site. However, using information technology to maintain records may eventually lead to reduced burden for licensees by allowing them to more easily retrieve and store records associated with this section's requirements.

4. Effort to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of requirements. NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections.

5. Effort to Reduce Small Business Burden

No small businesses are affected by the information collection requirements.

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

10 CFR 50.120 only specifies that the necessary records be maintained and kept available for NRC inspection to verify the adequacy of the training program. If these records are not maintained, it would not be possible to verify that the training programs are being effectively implemented and maintained and would result in improperly trained nuclear power plant personnel.

7. Circumstances which Justify Variation from OMB Guidelines

Rather than requiring records to be submitted, 10 CFR 50.120 requires sufficient records to be maintained on site to permit NRC verification of the adequacy of the programs. This results in retaining documentation related to establishing, implementing, and maintaining training programs and retaining documentation related to the job performance qualifications of personnel performing in positions covered by 10 CFR 50.120. This includes training records of contractor personnel who occupy regular positions working independently within the licensee's organization and short-term contractor personnel assigned to work independently. Pursuant to 10 CFR 50.71, program records are to be retained until termination of the license. Job performance qualifications are to be retained for each individual for the duration of employment. These record retention requirements will result in an auditable trail for ensuring that training is developed, evaluated, and revised based on job performance requirements, and that individuals are qualified to perform their jobs.

8. Consultations Outside the NRC

The opportunity for public comment on the information collections requirements for this clearance package was published in the *Federal Register* on March 2, 2010 (75 FR 9444). No comments were received.

9. Payment or Gift to Respondents

Not applicable.

10. Confidentiality of Information

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17(a) and 10 CFR 2.390(b). However, no information normally considered confidential or proprietary is requested.

11. Justification for Sensitive Questions

No sensitive information is requested.

12. Estimated Industry Burden and Burden Hour Cost

Approximately 65 power reactor sites are required to comply with this regulation. The industry has been providing performance-based training since 1985 for the personnel covered by the regulation. The documentation requirements contained in 10 CFR 50.120 are already being maintained by the licensees as they maintain and revise existing training programs. It is also anticipated that new licensees, if any, would develop training programs based on job performance requirements consistent with those currently conducted by licensees. Therefore, the recordkeeping burden associated with 10 CFR 50.120 has been confined to record retention associated with the update and maintenance of required training programs.

Estimate of Annual Burden to Maintain Records Related to Training and Qualification

10 CFR 50.120(b)			
Number of Recordkeepers	Annual Burden Hours per Recordkeeper	Total Annual Burden	Total Annual Cost (\$257/hour)
65	780	50,700	\$13,029,900

The above burden to meet 10 CFR 50.120(b) for all required programs is comprised of the following elements for each licensee:

- (a) Job performance qualification documentation for individuals performing in the positions covered by 10 CFR 50.120 (100 hours/annually)
- (b) Documentation of the job performance qualifications for contract workers performing in positions covered by 10 CFR 50.120 (200 hours/annually)
- (c) Analyses for the positions covered by 10 CFR 50.120 (160 hours/annually)
- (d) The listing of learning objectives derived from the analyses (40 hours/annually)
- (e) Documentation related to the selection of instructional settings and methods; modes of implementation; training program materials and tests; and trainee tests and performance evaluations including on-the-job training records (100 hours/annually)
- (f) Records to determine program effectiveness (100 hours/annually)
- (g) Records of the program revisions (80 hours/annually)

10 CFR 50.120(b) Estimate of Initial Burden for New Applicants to Document Training Programs

The burden for initial documentation of the training program is estimated to be 1,440 hours (160 hours for each of nine different types of personnel). Approximately 3 combined operating license applicants at 3 power reactor sites are required to comply with this rule. It is anticipated that new licensees will develop training programs based on job performance requirements consistent with those currently conducted by licensees.

Number of Recordkeepers	Initial Burden Hours per Recordkeeper	Total Initial Burden	Total Initial Cost (\$257/hour)
3	1,440	4320	\$1,110,240

The above burden to meet 10 CFR 50.120(b) for all required programs is comprised of the following elements for each licensee:

- (a) Job performance qualification documentation for individuals performing in the positions covered by 10 CFR 50.120 (450 hours)
- (b) Analyses for the positions covered by 50.120 (540 hours)
- (c) The listing of learning objectives derived from the analyses (180 hours)
- (d) Documentation related to the selection of instructional settings and methods; modes of implementation; training program materials and tests; and trainee tests and performance evaluations including on-the-job training records (270 hours)

13. Estimate of Other Additional Costs

The quantity of records to be maintained is roughly proportional to the recordkeeping burden. Based on the number of pages maintained for a typical clearance, the records storage cost has been determined to be equal to 0.04 percent of the recordkeeping burden cost. Therefore, the storage cost for this clearance is estimated to be \$5,656 (55,020 hours x .0004 x \$257).

14. Estimated Annualized Cost to the Federal Government

The information submitted to the NRC is reviewed as a normal part of the routine inspection process and, therefore, incurs minimal incremental cost to the government. This cost is fully recovered through fee assessments to NRC licensees pursuant to 10 CFR 170 and/or 10 CFR 171.

15. Reasons for Changes in Burden or Cost

Recordkeeping burden has decreased by 14,400 (from 69,420 to 55,020 hours). This change is due primarily to the number of new reactor applications expected from industry during the clearance period. During the previous term (2007-2010), the NRC anticipated receiving 19 combined license applications. 18 of the 19 anticipated applications have been received and docketed and are being reviewed by the NRC staff. However, for this clearance period (2010-2013), the NRC anticipates receiving 3 combined license applications or an average of one annually. The number of license applications the NRC anticipates receiving is based on discussions with prospective applicants. Additionally, although there has been a change in the fee from \$217 to \$257, the level of effort remained constant and results in a decrease in fees of \$924,000 (from \$19,321,260 to \$14,140,140).

16. Publication for Statistical Use

This information will not be published.

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.

## Section 31

### FINAL SUPPORTING STATEMENT FOR PRIMARY REACTOR CONTAINMENT LEAKAGE TESTING FOR WATER-COOLED POWER REACTORS

10 CFR 50, Appendix J

#### DESCRIPTION OF THE INFORMATION COLLECTION

10 CFR 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors," provides for pre-operational and periodic verification, by tests, of the leakage integrity of the primary reactor containment and systems, and components which penetrate containment, of water-cooled power reactors, other than facilities for which the certifications required under 10 CFR 50.82(a)(1) have been submitted. Tests are conducted upon completion of construction of the primary reactor containment building (containment), and periodically thereafter.

10 CFR 50 Appendix J is divided into two options: Option A, "Prescriptive Requirements," and Option B, "Performance-Based Requirements." Option B is a performance-based rule in which the intervals between tests are established, in part, based on the previous leakage rate performance of the component or system. A licensee may adopt, on a voluntary basis, either or both of the overall leakage testing requirements (Type A tests) and the local leakage rate testing requirements (Type B and C tests) of Option B. In either case, the recordkeeping requirements of Option B must be implemented. The pre-operational and periodic Type A, B, and C tests must be documented to show that the performance criteria for leakage have been met. The comparison to previous results of the performance of the overall containment system, and of individual components within it, must be documented to show that the test intervals established for the containment system and components within it are adequate. These records must be available for inspection at plant sites, but licensees are not required to submit these results to the NRC.

Neither option of 10 CFR 50 Appendix J contains specific reporting requirements. All requirements to make reports to the NRC were eliminated from 10 CFR 50 Appendix J (in what is now known as Option A) in 1995, and Option B, promulgated in 1995, also contains no reporting requirements, other than referring to the requirements contained in 10 CFR 50.72 and 10 CFR 50.73. For either option, licensees, under 10 CFR 50.72 and 10 CFR 50.73, currently report any instances of leakage exceeding authorized limits in the technical specifications of the license.

Although there are no specific reporting requirements, each option has recordkeeping requirements.

#### OPTION A

10 CFR 50, Appendix J, Section III requires licensees to develop a program consisting of a schedule for conducting Type A, B and C tests for leak testing the primary reactor containment



and related systems and components penetrating the primary containment pressure boundary. Since this information is presented in the Final Safety Analysis Report (FSAR), any burden involved in its preparation is considered under preparation of the FSAR. (See the Section 1 Supporting Statement.)

10 CFR 50, Appendix J, Section III.A.6 states that if a licensee's containment does not pass the Type A test, the test schedule applicable to subsequent Type A tests will be reviewed and approved by the Commission. No notifications are expected during this clearance period.

10 CFR 50, Appendix J, Section V.B requires recordkeeping of test results. The pre-operational and periodic tests must be documented in a readily available summary report that will be made available for inspection, upon request, at the nuclear power plant. The summary report shall include a schematic arrangement of the leakage rate measurement system, the instrumentation used, the supplemental test method, and the test program selected as applicable to the pre-operational test, and all the subsequent periodic tests. The report shall contain an analysis and interpretation of the leakage rate test data for the Type A test results to the extent necessary to demonstrate the acceptability of the containment's leakage rate in meeting acceptance criteria.

10 CFR 50, Appendix J, Section V.B. 2

For each periodic test, leakage test results from Type A, B, and C tests shall be included in the summary report. The summary report shall contain an analysis and interpretation of the Type A test results and a summary analysis of periodic Type B and Type C tests that were performed since the last Type A test. Leakage test results from Type A, B, and C tests that failed to meet the acceptance criteria of Appendix J, Sections III.A.5(b), III.B.3, and III.C.3 shall be included in a separate accompanying summary report that includes an analysis and interpretation of the test data, the least squares fit analysis of the test data, the instrumentation error analysis, and the structural conditions of the containment or components, if any, which contributed to the failure in meeting the acceptance criteria. Results and analyses of the supplemental verification test employed to demonstrate the validity of the leakage rate test measurements shall also be included.

OPTION B

10 CFR 50, Appendix J, Section III.A requires that a Type A test be conducted 1) after the containment system has been completed and is ready for operation and 2) at a periodic interval based on the historical performance of the overall containment system as a barrier to fission product releases to reduce the risk from reactor accidents. The test results must be compared with previous results to examine the performance history of the overall containment system to limit leakage.

10 CFR 50, Appendix J, Section III.B requires Type B and Type C pneumatic tests to be conducted (1) prior to initial criticality, and (2) periodically thereafter at intervals based on the safety significance and historical performance. The performance-based testing program must be established which contains a performance criterion for Type B and C tests, consideration of leakage-rate limits and factors that affect performance, evaluations of performance, and comparison to previous test results.

10 CFR 50, Appendix J, Section IV requires that the results of pre-operational and periodic Type A, B, and C tests must be documented to show that performance criteria for leakage have been met. The comparison to previous results of the performance of the overall containment system

and of individual components within it must be documented to show that the test intervals established for the containment system and components within it are adequate. These records must be available for inspection at plant sites.

10 CFR 50, Appendix J, Section V.A requires that if the requirements for tests in Option B, Section III.A, or Option B, Section III.B, are implemented, the recordkeeping requirements in Option B, IV, for these tests must be substituted for the reporting requirements of the tests contained in Option A.

10 CFR 50, Appendix J, Section V. B. 2 requires that a licensee or applicant for an operating license may adopt Option B, or parts thereof, by submitting its implementation plan and request for revision to technical specifications. (Burden for changes to technical specifications is covered by the Section 2 Supporting Statement.)

10 CFR 50, Appendix J, Section V. B. 3

The regulatory guide or other implementation document used to develop a performance-based leakage program must be included, by general reference, in the plant's technical specifications. The submittal for technical specification revisions must contain justification, including supporting analyses, if the licensee chooses to deviate from methods approved by the Commission and endorsed in a regulatory guide.

10 CFR 50, Appendix J, Section V. B. 4

The detailed licensee programs for conducting testing under Option B must be available at the plant site for inspection.

A. JUSTIFICATION

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

The primary reactor containment is designed to contain any operational or post-accident releases of radioactivity within specified limits. Calculations of the impact of a radiological release on public health and safety are dependent upon predictable leakage from the containment. The required tests, and their documentation, ensure that the containment is built and maintained as designed, and that leakage limits are not exceeded.

2. Agency Use of Information

Pre-operational leakage tests are the only means to verify that containment structures have in fact been built within the leakage levels specified as a condition of licensing by the NRC. Information included in the on-site licensee records is reviewed to determine the results achieved, as well as to judge the accuracy and validity (reliability) of the data.

The records of the periodic leakage tests are needed by the NRC in order to verify, on an audit basis, that containment leakage is maintained below the specified level throughout its operational life. Periodic information is needed for the same reasons as pre-operational test information, but in addition, is compared with that in the pre-operational test report and previous periodic test reports.

3. Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them. NRC issued a regulation on October 10, 2003 (68 FR 58791), consistent with the Government Paperwork Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, e-mail, special Web-based interface, or other means. It is estimated that approximately 95 percent of the potential required on-site licensee record documents are filed electronically.

4. Effort to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of requirements. NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections.

5.Effort to Reduce Small Business Burden

This information collection requirement does not affect small business.

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

The NRC would not be able to determine, in a timely fashion, whether structures have been built and maintained within limits that have been established to ensure the protection of the health and safety of the public.

7.Circumstances which Justify Variation from OMB Guidelines

Leakage test results, implementation plans, and records of the performance-based testing program must be kept for the operating lifetime of each nuclear plant for reference purposes.

8. Consultations Outside the NRC

The opportunity for public comment on the information collections requirements for this clearance package was published in the *Federal Register* on March 2, 2010 (75 FR 9444). No comments were received.

9. Payment or Gift to Respondents

Not applicable.

## 10. Confidentiality of Information

Confidential and proprietary information is protected in accordance with NRC regulations 10 CFR 9.17(a) and 10 CFR 2.390(b). However, no information normally considered confidential or proprietary is requested to be included in the required on-site licensee records.

## 11. Justification for Sensitive Questions

This regulation does not request sensitive information.

## 12. Estimated Industry Burden and Burden Hour Cost

Currently, all licensees use Option B for Type A, and Type B and C testing.

Sixty (60) hours annually are necessary for analysis and maintenance of the ongoing program for each license. This results in an estimated recordkeeping burden of 6,240 hours for this clearance period based on 104 licensees.

Based on the above and using the professional staff-hour fee rate, the combined annual recordkeeping burden and cost for all NRC commercial reactor licensees to comply with 10 CFR 50 Appendix J is 6,240 hours at a cost of \$1,604,322 (6,240 hours X \$257/hour). See Table 1.

## 13. Estimate of Other Additional Costs

The NRC has determined that the quantity of records to be maintained is roughly proportional to the recordkeeping burden and, therefore, can be used to calculate approximate records storage costs. Based on the number of pages maintained for a typical clearance, the records storage cost has been determined to be equal to 0.0004 times the recordkeeping burden cost. Because the recordkeeping burden is estimated to be 6,240 hours, the storage cost for this clearance is \$642 (6,240 hours x 0.0004 x \$257/hour).

### 1. Estimated Annualized Cost to the Federal Government

The NRC has minimized recordkeeping requirements and has eliminated the reporting requirements in Appendix J, except for the completed one-time requirement to submit implementation plans for licensees adopting Option B. The burden on the Federal government for routine inspection of records is estimated to be minimal. Costs to the NRC are fully recovered through fee assessments to NRC licensees pursuant to 10 CFR 170 and/or 10 CFR 171.

15. Reasons for Changes in Burden or Cost

The overall burden has increased by 2,760 hours from 3,480 to 6,240 hours because the wider industry adopted Option B in accordance with Appendix J. The total annual recordkeeping burden to maintain compliance with Appendix J has changed from the previous OMB clearance period. The total cost has increased because the hourly cost increased to \$257. The recordkeeping burden has increased by 2,760 hours due to the wider industry adoption of Option B, [Performance-Based Requirements]. The wider adoption (42 licensees) establishes a baseline of 60 hours per recordkeeper and no longer requires separate burden reporting as documented in the previous submittal.

The total cost has increased because the hourly cost increased from \$217 to \$257.

16. Publication for Statistical Use

The collected information is not published 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.

COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

Not applicable.

TABLE 1  
ANNUAL INDUSTRY BURDEN AND COST - RECORDKEEPING

10 CFR 50 Appendix J Activity	Number of Recordkeepers	Estimated Burden Hours Per Recordkeeper Per Year	Total Estimated Recordkeeping Burden Hours Per Year	Co
OPTION B Development and Ongoing Analyses & Maintenance of Performance Based Leakage Testing Program	104	60	6240	
Record Storage (Cost = 0.0004 X Recordkeeping Burden Hours)				
TOTAL BURDEN				

FINAL SUPPORTING STATEMENT  
EARTHQUAKE ENGINEERING CRITERIA FOR NUCLEAR POWER PLANTS

10 CFR 50 Appendix S, and 50.54(ff)

DESCRIPTION OF INFORMATION COLLECTION

10 CFR 50 Appendix S, "Earthquake Engineering Criteria for Nuclear Power Plants," requires applicants to provide the design bases for a nuclear power plant that will ensure that structures, systems, and components important to safety will be able to withstand the natural phenomena specified in General Design Criterion 2 of 10 CFR 50 Appendix A and 10 CFR 100 (OMB Clearance No. 3150-0093) without loss of capability to perform their safety functions. 10 CFR 50 Appendix S and 10 CFR 100, in combination, are a revision of 10 CFR 100 Appendix A, "Seismic and Geologic Siting Criteria for Nuclear Power Plants," and apply to applicants who apply for a design certification or combined license pursuant to 10 CFR 52, or for a construction permit or operating license pursuant to 10 CFR 50, on or after January 10, 1997. Three new applications are anticipated during this 3-year clearance period. Existing licensees must continue to meet the requirements of 10 CFR 100 Appendix A (3150-0093).

10 CFR 50 Appendix S IV(a)(3) states that if vibratory ground motion exceeds that of the Operating Basis Earthquake Ground Motion, or if significant plant damage occurs, the licensee must shut down the nuclear power plant. If systems, structures, or components necessary for the safe shutdown of the nuclear power plant are not available after the occurrence of the Operating Basis Earthquake Ground Motion, the licensee must consult with the Commission and must propose a plan for the timely, safe shutdown of the nuclear power plant. Both 10 CFR 50 Appendix S IV(a)(3) and 10 CFR 50.54(ff) require that prior to resuming operations, the licensee must demonstrate to the Commission that no functional damage has occurred to those features necessary for continued operation without undue risk to the health and safety of the public and that the licensing basis is maintained.

A. JUSTIFICATION

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

In support of the agency's mission regarding adequate protection of public health and safety from seismic events, the NRC will need the information requested to assess the adequacy of proposed seismic design bases (siting and engineering) and the design bases for other geological hazards for nuclear power plants. It is to be submitted to the NRC as part of the application and supporting documentation (see the Section 1 Supporting Statement) for a construction permit, operating license, design certification, or combined license for a nuclear power plant.

Moreover, 10 CFR Appendix S, as well as 10 CFR 100.23, supplemented by the Standard Format, regulatory guides, and the Standard Review Plan, are used by applicants as general guidance in planning investigations of nuclear power plant sites and designing nuclear power plant structures, systems, and components important to safety to withstand the effects of natural phenomena such as earthquakes.

Information required by 10 CFR 50 Appendix S IV(a)(3) and 10 CFR 50.54(ff) is needed by NRC to assess conditions for restart.

2. Agency Use of Information

The NRC reviews the geological and seismological information to determine the suitability of the proposed site for a nuclear plant and the suitability of the plant design bases established on the proposed site. A construction permit, standard design certification, or combined license cannot be issued until these data have been reviewed and approved by the NRC.

New geological and seismological information that becomes known during the operating life of a plant is also evaluated on the basis of these criteria. The difficulties experienced with these criteria also serve as the basis for ongoing NRC research in the earth sciences.

3. Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them. NRC issued a regulation on October 10, 2003 (68 FR 58791), consistent with the Government Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, e-mail, special Web-based interface, or other means. It is estimated that 20% of the potential responses are filed electronically.

4. Effort to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of requirements. NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections.

5. Effort to Reduce Small Business Burden

This information collection does not affect small business.



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

Less frequent or no collection of information will result in serious delays in the licensing processes of nuclear power plants or potential additional risks to public health and safety.

7. Circumstances which Justify Variation from OMB Guidelines

There is no variation from the guidelines.

8. Consultation Outside the NRC

The opportunity for public comment on the information collections requirements for this clearance package was published in the *Federal Register* on March 2, 2010 (75 FR 9444). No comments were received.

9. Payment or Gift to Respondents

Not applicable.

10. Confidentiality of Information

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17 (a) and 10 CFR 2.390 (b)

11. Justification for Sensitive Questions

This regulation does not require sensitive information.

12. Estimated Industry Burden and Burden Hour Cost

This estimate is based on the requirement that nuclear power plant structures, systems, and components important to safety are designed to withstand the effects of earthquakes without loss of capability to perform their safety functions. In order for applicants to provide information that shows the functionality of structures, systems, and components to vibratory ground motion, suitable analysis, testing, or qualification methods are employed.

Based on an estimated industry burden associated with the seismic engineering of nuclear power plant structures, systems, and components of 775,000 hours per application over a 5-year review period, the annual estimated industry burden per application is 155,000 hours at a cost of \$39,835,000 (155,000 hours x \$257/hour). Three applications are anticipated to be submitted during this 3-year clearance period. We expect submission of one application to be initiated during each year of the clearance period. Therefore, the annual burden for the clearance period is estimated as follows:

Year 1:	1 application submitted and under review	(1 x 155,000 hrs)	155,000 hrs
Year 2:	1 application submitted + 1 under review	(2 x 155,000 hrs)	310,000 hrs
Year 3:	1 application submitted + 2 under review	(3 x 155,000 hrs)	465,000 hrs
Total:			930,000 hrs

Total annualized burden: 310,000 hours (930,000 hours/3 years)  
Total annual responses: 2  
Total annual cost: \$79,670,000 (310,000 x \$257/hr)

Staff estimates that of the above annual burden, 10 percent (31,000 hours) is attributable to recordkeeping associated with the requirement, and 90 percent (279,000 hours) is reporting.

Because of the relatively low seismicity near most plants, there is little likelihood that any plant would be required to shut down pursuant to 10 CFR Part 50 Appendix S IV(a)(3), and therefore, no burden has been included for the requirement. However, in the event of a plant shutdown, approximately 320 hours of effort would be required to inspect the plant and document the inspection. If required, this burden would be \$82,240 (320 x \$257).

13. Estimate of Other Additional Costs

The quantity of records to be maintained is judged to be roughly proportional to the recordkeeping burden. Based on the number of pages maintained for a typical clearance, the records storage cost has been determined to be equal to .0004 times of the recordkeeping burden cost. Therefore, the storage cost for this clearance is estimated to be \$3,186 (31,000 hours x \$257/hour x .0004).

14. Estimated Annualized Cost to the Federal Government

The annual Federal burden for staff evaluation of nuclear power plant structures, systems, and components to ensure that they will perform their safety function without loss of capability is estimated at 2,000 hours per respondent. Additionally, consultants and staff from the Department of Energy laboratories would be employed by the NRC on a case-by-case basis to provide advice in activities related to staff reviews. It is anticipated that an average annual effort for these consultants would not exceed 2,000 hours or \$514,000 (2,000 x \$257/hour). Three applications are anticipated during this 3-year clearance period, therefore, the annual government cost for this clearance renewal period is estimated to be \$1,028,000 (1 application x 4000 hours x \$257 per hour).

In the unlikely event that a plant would be shutdown pursuant to 10 CFR Part 50 Appendix S IV(a)(3), it is estimated that 80 hours of contractor effort would be required to review and assess conditions for restart. Although no plant shutdowns are expected during the clearance renewal period, the total annual cost per respondent to the Federal Government for such activities related to 10 CFR Part 50 Appendix S is estimated to be \$1,048,560 (4,000 + 80 x \$257/hour).

This cost is fully recovered through fee assessments to NRC licensees pursuant to 10 CFR 170 and/or 171.

15. Reasons for Changes in Burden or Cost

The overall licensee burden has decreased from 1,090,167 hours to 310,000 hours, resulting in a reduction of 780,167 hours. This change is due to the number of new reactor applications expected from industry during the clearance period. During the previous term (2007-2010), the NRC anticipated receiving 19 combined license applications. 18 of the 19 anticipated applications have been received and docketed and are being reviewed by the NRC staff. However, for this clearance period (2010-2013), the NRC anticipates receiving 3 combined license applications, or an average of one annually. The number of license applications the NRC anticipates receiving is based on discussions with prospective applicants.

There is no change in the level of effort required to process the application since the last update, it remains at 1,090,167 hours; however, due to the reduction in submittals from industry, there is also a reduction in cost from \$236,566,239 in the previous clearance to \$79,670,000 for this period noting a rate change of \$217 to \$257.

16. Publication for Statistical Use

The collected information is not published 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.

2. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

Not applicable.

FINAL OMB SUPPORTING STATEMENT FOR  
AN APPROACH FOR USING PROBABILISTIC RISK ASSESSMENT IN  
RISK-INFORMED DECISIONS ON PLANT-SPECIFIC CHANGES  
TO THE CURRENT LICENSING BASIS

(Regulatory Guides RG-1.174, General; RG-1.175, IST; RG-1.176, GQA; RG-1.177, TS;  
RG-1.178, ISI; RG-1.201, RISC; and RG-1.200, PRA Technical Adequacy)  
(3150-0011)

Description of the Information Collection

In the specific areas of In-Service Inspection (ISI, RG-1.178), In-Service Testing (IST, RG-1.175), Graded Quality Assurance (GQA, RG-1.176), Technical Specifications (TS, RG-1.177), Risk-Informed Safety Classification (RISC, RG-1.201), and in an overall guide generically applicable to all five of these areas (RG-1.174), as supported by Probabilistic Risk Assessment (PRA) Technical Adequacy guidance RG-1.200, this series of Regulatory Guides provides a risk-informed method for licensees to use in requesting changes to their current licensing bases (CLB), the requirements for which are stated or referenced in numerous sections of 10 CFR 50 as detailed below in item A.1. No changes or additions have been made to those sections of 10 CFR 50 (nor to any other rules or regulations) in conjunction with the issuance of this series of guides. The risk-informed method is an alternative to the deterministically-based CLB change method, which remains an acceptable approach.

The risk-informed (RI) alternative method allows licensees to concentrate on plant equipment and operations that are most critically important to plant safety. For example, existing regulations require certain quality assurance (QA) activities to be applied to a wide variety of a plant's structures, systems, and components (SSCs). Although the regulations allow these quality assurance activities to be applied in a way that is commensurate with the safety importance of each SSC, historical precedent has resulted in the same quality assurance activities being applied to SSCs that have a wide range of safety significance. The risk-informed alternative encourages quality assurance activities that are compatible with safety significance, thus allowing more effort to be expended on the more important equipment and correspondingly less effort on the less important equipment. In this way, a savings in total effort can be achieved with an acceptably small change in overall safety. This savings, together with the greater operating flexibility that is possible utilizing the risk-informed method, are among the principal incentives for licensees to voluntarily assume the recordkeeping and reporting burdens that come with the risk-informed method.

The guides specify the records, analyses, and documents that licensees are expected to prepare in support of risk-informed changes to their CLB in the specified areas. Within each of the five specific areas, the applicable Regulatory Guide, as supplemented by the additional generic guidance from the overall guide (RG-1.174) and the PRA technical adequacy guide (RG-1.200), specifies that the licensee should consider the following four items. The licensee should:

1. Identify those aspects of the plant's licensing bases that may be affected by the proposed change, including, but not limited to, rules and regulations, final safety analysis report (FSAR), technical specifications, licensing conditions, and licensing commitments; identify all SSCs, procedures, and activities that are covered by the CLB change under

evaluation and consider the original reasons for inclusion of each program requirement; and identify available engineering studies, methods, codes, applicable plant-specific and industry data and operational experience, PRA findings, and research and analysis results relevant to the proposed CLB change;

2. Evaluate the proposed CLB change with regard to meeting the regulations and the principles that adequate defense-in-depth is maintained, that sufficient safety margins are maintained, and that any proposed increases in core damage frequency and risk are small and are consistent with the intent of the Commission's Safety Goal Policy Statement;
3. Develop an implementation and monitoring plan to ensure that the engineering evaluation conducted to examine the impact of the proposed changes continues to reflect the actual reliability and availability of SSCs that have been evaluated and to ensure that the conclusions that have been drawn from the evaluation remain valid; and
4. Review the proposed CLB change in order to determine the appropriate form of the change request; assure that information required by the relevant regulations(s) in support of the request is developed; and prepare and submit the request in accordance with relevant procedural requirements (for those applications where submittal is required, as specified later in this document).

Changes in NRC expectations, regarding licensee recordkeeping and reporting in the technical areas due to a licensee's voluntary use of this alternative risk-informed method for requesting CLB changes, are the subject of this supporting statement. 10 CFR 50 supporting statements describing the current bases for OMB's recordkeeping and reporting approval in these technical areas are as follows:

Section 16 of the current 10 CFR 50 OMB clearance covers the recordkeeping and reporting burdens for in-service inspection and in-service testing programs. Not included in Section 16 are the recordkeeping and reporting needed to convert the bases of ISI and/or IST programs to the risk-informed CLB change methodology (an one-time-only effort, as described in items #1, #2, and #4 above), and the recordkeeping and reporting associated with the implementation and monitoring plan that is an integral part of these risk-informed programs (an ongoing effort, as described in item 3 above, to ensure that no unexpected, adverse, safety degradation occurs after the requested changes have been made). However, the burden for CLB changes, including but not limited to CLB changes related to ISI and IST, is covered in Section 1 of the OMB clearance for 10 CFR 50 (license amendments).

Section 15 of the current 10 CFR 50 OMB clearance covers 10 CFR 50 Appendix B, which contains NRC's requirements regarding the features of the quality assurance (QA) programs that each licensee must establish, update, and follow throughout the life of the plant. 10 CFR 50 Appendix B allows QA activities to be applied in a graded manner and, because there is variety in the exact commitment made by individual licensees in their CLB regarding QA programs, licensees can adopt certain aspects of graded QA programs without prior NRC approval. The last paragraph of item A.1 of Section 15 states:

“Maintenance of a QA program description is a license condition for both the construction and operation phases of a nuclear power plant. Like other license

conditions, the description must be maintained current after it has been accepted by the NRC. It is estimated that a licensee/applicant will make one change to the QA program description per year. The burden for Current Licensing Basis (CLB) changes, including changes to the QA program description, are included in the total license amendment requests in Section 1.”

Thus, the burden for CLB changes, including but not limited to CLB changes related to QA, is covered in Section 1 of the OMB clearance for 10 CFR Part 50 (license amendments).

Section 1 of the Part 50 clearance covers the recordkeeping and reporting required for technical specifications. Technical specifications are required to be part of a licensee’s operating license, and license amendments are issued in response to requests for changes to technical specifications. License amendments for technical specifications changes have been anticipated for the clearance period, and the anticipated recordkeeping and reporting requirements burden has been included within Section 1. Over the past several years, applications for license amendments for technical specification changes have made increasing use of quantitative risk evaluations (i.e., the requests have become more “risk-informed”). Thus, the subject RG-1.177 serves more to codify and standardize existing practice than it does to significantly change that practice. Thus, many of the recordkeeping and reporting expectations associated with conversion to, and later maintenance of, risk-informed technical specification changes are already included within Section 1. This includes the implementation and monitoring plan, since technical specifications are required only for significant, safety-related equipment for which implementation and monitoring activities are currently required by 10 CFR 50.65.

## A. JUSTIFICATION

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

In cases where the licensee chooses to convert from the present deterministically- oriented CLB to the alternative risk-informed CLB in any one of (or combination of) the subject technical areas, the licensee and the NRC must have sufficient information to determine that the plant continues to be operated in a manner that ensures the health and safety of the public upon implementation of the changes.

The information expected to be collected for the above-stated purpose in each of the technical areas considered by the subject Regulatory Guides is specified in various sections of 10 CFR 50, as described below. These regulations remain unchanged by issuance of the subject Regulatory Guides. Only the method for compliance has been changed. The current regulations are:

In-Service Inspection (ISI, RG-1.178, and the generically applicable RG-1.174 and RG-1.200):

10 CFR 50.55a(g) “Inservice inspection requirements,” specifies in detail, according to the date of issuance of the plant’s construction permit, the editions of Section XI of the ASME Boiler and Pressure Vessel Code and Addenda to

which the in-service inspection of the plant's piping and pressure boundary equipment must comply, including the reporting and recordkeeping that is expected as part of the licensee's ISI program.

In order for the licensee to ensure, and the NRC to verify, that the requirements of this regulation (and the referenced codes and addenda) continue to be met following changes to the licensee's ISI program, in those cases where the licensee chooses to use the risk-informed alternative method for requesting such changes, the NRC expects the licensee to document and submit its consideration of the four items described in the above "Description of the Information Collection" section. This documentation is used by the NRC as indicated in item A.2 below.

The NRC expects licensees to maintain sufficient information regarding how the plant meets its CLB to support NRC audit of these bases at any time such audit should become necessary. However, the details regarding the related documentation that must be maintained, and for how long, are not explicitly provided in the regulations (other than that provided by the records-retention aspects of 10 CFR 50.71(c), which are discussed in the next-to-last paragraph under "Technical Specifications" below).

Licensee requests for CLB changes to various portions of their in-service inspection programs are voluntary. The availability of the risk-informed alternative for requesting such changes in no way makes the licensee's present in-service inspection program unacceptable. Each licensee will therefore request such a change if and when the licensee decides it is to its advantage (by virtue of concentrating its inspection efforts on the more risk-significant portions of its piping and pressure boundaries, and by the resulting increased operating flexibility) to request such a change. Therefore, the frequency of in-service inspection program change submittals using the risk-informed alternative method is not known with any certainty, although the staff's best estimates are used in item 12 below ("Estimate of Burden").

In-Service Testing (IST, RG-1.175, and the generically applicable RG-1.174 and RG-1.200):

10 CFR 50.55a(f), "Inservice testing requirements," specifies in detail, according to the date of issuance of the plant's construction permit, the editions of Section XI of the ASME Boiler and Pressure Vessel Code and Addenda to which the in-service testing of the plant's pumps and valves must comply, including the reporting and recordkeeping that is expected as part of the licensee's IST program.

In order for the licensee to ensure, and the NRC to verify, that the requirements of this regulation (and the referenced codes and addenda) continue to be met following changes to the licensee's IST program, in those cases where the licensee chooses to use the risk-informed alternative method for requesting such changes, the NRC expects the licensee to document and submit its consideration of the four items described in the above "Description of the Information Collection" section. This documentation is used by the NRC as indicated in item

A.2 below.

The NRC expects licensees to maintain sufficient information regarding how the plant meets its CLB to support NRC audit of these bases at any time such audit should become necessary. However, the details regarding the related documentation that must be maintained, and for how long, are not explicitly provided in the regulations (other than that provided by the records-retention aspects of 10 CFR 50.71(c), which are discussed in the next-to-last paragraph under “Technical Specifications” below).

Licensee requests for CLB changes to various portions of their in-service testing programs are voluntary. The availability of the risk-informed alternative for requesting such changes in no way makes the licensee’s present in-service testing program unacceptable. Each licensee will therefore request such a change if and when the licensee decides it is to its advantage (by virtue of concentrating its testing efforts on the more risk-significant pumps and valves, and by the resulting increased operating flexibility) to request such a change. Therefore, the frequency of in-service testing program change submittals using the risk-informed alternative method is not known with any certainty, although the staff’s best estimates are used in item 12 below (“Estimate of Burden”).

Graded Quality Assurance (GQA, RG-1.176, and the generically applicable RG-1.174 and RG-1.200):

10 CFR 50 Appendix B, “Quality Assurance Criteria,” describes the requirements of the quality assurance (QA) program that must be documented and applied to all activities affecting the safety-related functions of the plant’s equipment, including the reporting and recordkeeping that is expected as part of the licensee’s QA program. The overall purpose of the QA program is to establish a set of systematic and planned actions that are necessary to provide adequate confidence that safety-related plant equipment will perform satisfactorily in service.

The requirements delineated in 10 CFR 50 Appendix B allow QA program controls to be applied in a “graded” manner, that is, with greater efforts applied to QA programs related to more safety-significant equipment and activities, and lesser efforts applied to QA programs related to less safety-significant equipment and activities. In the past, engineering judgment provided the general mechanism for evaluating the relative importance to safety of plant equipment and activities, resulting in little advantage being taken of the regulation’s provision that graded QA programs could be applied. The risk-informed alternative for making QA program changes (described in the subject RG-1.176) encourages graded QA (GQA) programs by providing a more systematic methodology for categorizing safety-related equipment and activities according to their safety importance, and for applying commensurate QA activities to each category.

In order for licensees to ensure that the requirements of 10 CFR 50 Appendix B continue to be met following changes to the licensee’s QA program, in those cases where the licensee chooses to use the risk-informed alternative method for



requesting such changes, the NRC expects licensees to document their consideration of the four items described in the above “Description of the Information Collection” section. Because the governing regulation (10 CFR 50 Appendix B) allows QA activities to be applied in a graded manner, and because there is variety in the exact commitment made by individual licensees in their CLB regarding QA programs, certain licensees can adopt certain aspects of graded QA programs without prior NRC approval. However, in those cases, the NRC expects licensees to document their consideration of the above-described four items for NRC’s use during later audits of their QA program. This documentation may be used by NRC as indicated in item A.2 below.

The NRC expects licensees to maintain sufficient information regarding how the plant meets its CLB to support NRC audit of these bases at any time such audit should become necessary. However, the details regarding the related documentation that must be maintained, and for how long, are not explicitly provided in the regulations (other than that provided by the records-retention aspects of 10 CFR 50.71(c), which are discussed in the next-to-last paragraph under “Technical Specifications” below).

Licensee requests for CLB changes to various portions of their quality assurance programs are voluntary. The availability of the risk-informed alternative for requesting such changes in no way makes the licensee’s present quality assurance program unacceptable. Each licensee will therefore request QA program changes if and when the licensee decides it is to its advantage (by virtue of concentrating its QA efforts on the more risk significant SSCs and activities in its plant, and by the resulting increased operating flexibility) to request such a change. Therefore, the frequency of QA program change submittals using the risk-informed alternative method is not known, although the staff’s best estimates are used in item 12 below (“Estimate of Burden”).

Technical Specifications (TS, RG-1.177, and the generically applicable RG-1.174 and RG-1.200):

10 CFR 50.36, “Technical Specifications,” requires that technical specifications be included as part of the plant’s license specifying certain safety and control limits and settings, limiting conditions for operations, surveillance requirements, design features, administrative controls, and required notifications and reports, and it includes specification of the reporting and recordkeeping that is expected as part of the licensee’s TS program. Requests for changes to technical specifications are submitted as applications for amendments to the plant’s operating license.

Over the past several years, applications for license amendments for technical specification changes have made increasing use of quantitative risk evaluations (i.e., many of the requests are “risk-informed”). Thus, issuance of the subject RG-1.177 serves to standardize the approach to making such risk-informed applications.

In order for the licensee to ensure, and the NRC to verify, that the requirements of this regulation continue to be met following changes to the licensee’s TS

program, the NRC expects the licensee to document and submit its consideration of the four items described in the above "Description of the Information Collection" section. This documentation is used by the NRC as indicated in item A.2 below.

10 CFR 50.71(c) states, "Records that are required by the regulations in this part, by license condition, or by technical specifications, must be retained for the period specified by the appropriate regulation, license condition, or technical specification. If a retention period is not otherwise specified, these records must be retained until the Commission terminates the facility license." Thus, the required retention period varies according to the particular regulations, license conditions, or technical specifications that govern the particular aspect of the plant's CLB that is being changed.

Licensee requests for license amendments for technical specification changes are usually voluntary, but are sometimes in response to regulatory changes or regulatory positions that reflect changes in risk perspectives (for example, as caused by the occurrence of a significant operating event).

Risk-Informed Safety Classification (RISC, RG-1.201, and the generically applicable RG-1.174 and RG-1.200):

On November 22, 2004, the U.S. Nuclear Regulatory Commission (NRC) adopted 10 CFR 50.69 (69 FR 68008). This regulation permits power reactor licensees and license applicants to implement an alternative regulatory framework with respect to "special treatment," where special treatment refers to those requirements that provide increased assurance beyond normal industrial practices that SSCs perform their design-basis functions. Under this framework, licensees using a risk-informed process for categorizing SSCs according to their safety significance can remove SSCs of low safety significance from the scope of certain identified special treatment requirements.

In May 2006, the NRC issued for trial use, Regulatory Guide (RG) 1.201, "Guidelines for Categorizing Structures, Systems, and Components in Nuclear Power Plants According to Their Safety Significance," which describes a method that the NRC staff considers acceptable for use in complying with the Commission's requirements in 10 CFR 50.69 with respect to the categorization of SSCs that are considered in risk-informing special treatment requirements. This categorization method endorses, with a number of clarifications, the process that the Nuclear Energy Institute (NEI) describes in Revision 0 of its guidance document NEI 00-04, "10 CFR 50.69 SSC Categorization Guideline," dated July 2005. Specifically, this process determines the safety significance of SSCs and categorizes them into one of four risk-informed safety class (RISC) categories.

This trial regulatory guide provides interim guidance for complying with the NRC's requirements in 10 CFR 50.69, by using the process described in Revision 0 of NEI 00-04 to determine the safety significance of SSCs and placing them into the appropriate RISC categories. The safety significance of SSCs is determined using an integrated decision-making process, which incorporates both risk and traditional engineering insights. The safety functions of SSCs

include both the design-basis functions (derived from the safety-related definition) and functions credited for preventing and/or mitigating severe accidents. Treatment requirements are then commensurately applied for the categorized SSCs to maintain their functionality.

10 CFR 50.69 relies on a robust categorization process, as described in RG 1.201 and NEI 00-04, to provide reasonable confidence that the safety significance of SSCs is correctly determined. To ensure a robust categorization is employed, 10 CFR 50.69 requires the categorization process to be reviewed and approved by the NRC prior to implementation of 10 CFR 50.69. 10 CFR 50.69(b)(2) requires a licensee who voluntarily seeks to implement 10 CFR 50.69 to submit an application for a license amendment pursuant to 10 CFR 50.90 that contains the following information:

- (i) A description of the categorization process that meets the requirements of 10 CFR 50.69(c);
- (ii) A description of the measures taken to assure that the quality and level of detail of the systematic processes that evaluate the plant for internal and external events during normal operation, low power, and shutdown (including the plant-specific PRA, margins-type approaches, or other systematic evaluation techniques used to evaluate severe accident vulnerabilities) are adequate for the categorization of SSCs;
- (iii) Results of the PRA review process to be conducted to meet 10 CFR 50.69(c)(1)(i); and,
- (iv) A description of, and basis for acceptability of, the evaluations to be conducted to satisfy 10 CFR 50.69(c)(1)(iv). The evaluations shall include the effects of common cause interaction susceptibility, and the potential impacts from known degradation mechanisms for both active and passive functions, and address internally and externally initiated events and plant operating modes (e.g., full power and shutdown conditions).

The validity of the categorization process relies on ensuring that the performance and condition of SSCs continues to be maintained consistent with applicable assumptions. Changes in the level of treatment applied to an SSC might result in changes in the reliability of the SSCs credited in the categorization process. Additionally, plant changes, changes to operational practices, and plant and industry operational experience may impact the categorization process results. Consequently, the regulation contains requirements for updating the categorization and treatment processes when conditions warrant to assure that continued SSC performance is consistent with the categorization process and results.

Specifically, the regulation requires licensees to review in a timely manner, but no longer than once every two refueling outages, the changes to the plant, operational practices, applicable plant and industry operational experience, and, as appropriate, update the PRA and SSC categorization. In addition, licensees

are required to obtain sufficient information on SSC performance to verify that the categorization process and its results remain valid. For RISC-1 SSCs, much of this information may be obtained from present programs for inspection, testing, surveillance, and maintenance. However, for RISC-2 SSCs, and for RISC-1 SSCs credited for beyond-design-basis accidents, licensees need to ensure that sufficient information is obtained. For RISC-3 SSCs, there is a relaxation of the requirements for obtaining information when compared to the applicable special treatment requirements. However, sufficient information would still need to be obtained and the regulation requires considering performance data, determining if adverse changes in performance have occurred, and making the necessary adjustments such that desired performance is achieved so that the evaluations conducted to meet 10 CFR 50.69(c)(1)(iv) remain valid. The feedback and adjustment process is crucial to ensuring that the SSC performance is maintained consistent with the categorization process and its results.

Taking timely corrective action is an essential element for maintaining the validity of the categorization and treatment processes used to implement 10 CFR 50.69. For safety significant SSCs, all current requirements continue to apply and, as a consequence, 10 CFR 50 Appendix B corrective action requirements are applied to the design basis aspects of RISC-1 SSCs to ensure that conditions adverse to quality are corrected. For both RISC-1 and RISC-2 SSCs, requirements are included in 10 CFR 50.69(e)(2) for monitoring and for taking action when SSC performance degrades.

When a licensee or applicant determines that a RISC-3 SSC does not meet its established acceptance criteria for performance of design basis functions, the regulation requires that a licensee perform timely corrective action (10 CFR 50.69(d)(2)(ii)). Further, as part of the feedback process, the review of operational data may reveal inappropriate credit for reliability or performance and a licensee would need to re-visit the findings made in the categorization process or modify the treatment for the applicable SSCs (10 CFR 50.69(e)(3)). These provisions would then restore the facility to the conditions that were considered in the categorization process and would also restore the capability of the SSCs to perform their functions.

In 10 CFR 50.69(f) the regulation requires the licensee or applicant to document the basis for its categorization of SSCs before removing special treatment requirements. The regulation also requires the licensee or applicant to update the final safety analysis report to reflect which systems have been categorized.

The regulation also requires, in 10 CFR 50.69(g), reporting of events or conditions that would have prevented RISC-1 and RISC-2 SSCs from being able to perform their safety significant functions. Because the categorization process has determined that RISC-2 SSCs are of safety significance, NRC is interested in reports about circumstances where the safety significant function would have been prevented because of events or conditions. This reporting will enable NRC to be aware of situations impacting those functions found to be significant under 10 CFR 50.69, such that NRC can take any actions deemed appropriate.

Properly implemented, these requirements ensure that the validity of the

categorization process and results are maintained throughout the operational life of the plant.

The NRC will review and update, as appropriate, the current inspection procedures under the NRC Reactor Oversight Process to incorporate inspection guidance for monitoring the implementation of 10 CFR 50.69 at nuclear power plants. The NRC intends to conduct sample inspections of plants implementing 10 CFR 50.69 in a manner that is sensitive to conditions that could significantly increase risk. The sample inspections will focus on the implementation of the categorization process approved as part of the NRC review of the 10 CFR 50.69 license amendment request. The sample inspections will also evaluate the treatment processes established under 10 CFR 50.69 with primary attention directed to programmatic and common-cause issues; including those associated with known degradation mechanisms. The inspections may provide operating experience information on RISC-3 SSCs that can also be provided to other licensees.

2. Agency Use of Information

In-Service Inspection (RG-1.178, and the generically applicable RG-1.174 and RG-1.200):

The information expected as described in item A.1 will be used by responsible NRC personnel to make the finding that the requirements of the plant's CLB in areas related to in-service inspection will continue to be satisfied once the requested changes are made, thus insuring the continuing validity of the plant's operating license.

In-Service Testing (RG-1.175, and the generically applicable RG-1.174 and RG-1.200):

The information expected as described in item A.1 will be used by responsible NRC personnel to make the finding that the requirements of the plant's CLB in areas related to in-service testing will continue to be satisfied once the requested changes are made, thus insuring the continuing validity of the plant's operating license.

Quality Assurance (RG-1.176, and the generically applicable RG-1.174 and RG-1.200):

For licensees whose license requires NRC approval prior to implementation of the specific type of QA change being requested (see discussion in item A.1), the submitted information (also described in item A.1) is used by the responsible NRC personnel to make the finding that the QA requirements will continue to be met once the requested QA changes are made. For licensees whose license does not require prior approval (see discussion in item A.1), the same information should be used by the licensee to determine that the QA requirements will continue to be met once the requested changes are made, and also should be retained on-site for possible NRC inspection to confirm that the plant continues to conform to its CLB in areas related to quality assurance.

Technical Specifications (RG-1.177, and the generically applicable RG-1.174 and RG-1.200):

The information expected as described in item A.1 is used by responsible NRC personnel in the review and approval of the requested license amendment, thus ensuring the continuing validity of the plant's operating license once the requested technical specification changes are made.

Risk-Informed Safety Classification (RISC, RG-1.201, and the generically applicable RG-1.174 and RG-1.200):

The information expected as described in item A.1 is used by responsible NRC personnel in the review and approval of the requested license amendment, thus ensuring the continuing validity of the plant's operating license once the requested changes are made.

3. Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them. NRC issued a regulation on October 10, 2003 (68 FR 58791), consistent with the Government Paperwork Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, e-mail, special Web-based interface or other means. However, because of the types of information and the infrequency of submission, the reports do not readily lend themselves to the use of information technology collection techniques for submission. It is estimated that approximately 60% of the potential responses are filed electronically.

4. Effort to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of requirements. NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections.

5. Effort to Reduce Small Business Burden

Not applicable. These submittals are prepared by licensees of nuclear power plants, which are not small businesses.

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

These voluntary collections are not required on a specified frequency (or at all). The only effect on Federal Programs of not receiving information, or receiving it less frequently, would be that of not allowing licensees the possible savings in

resources and the increased operating flexibility that would otherwise result from such submittals.

7. Circumstances which Justify Variation from OMB Guidelines

These records and reports become part of the licensing basis of the plant (or the license itself, as noted in the sections that discuss technical specifications). The NRC expects licensees to maintain sufficient information regarding how the plant meets its CLB to support NRC audit of these bases at any time such audit should become necessary. However, the details regarding how much related documentation must be maintained, and for how long, are not explicitly provided in the regulations (other than that provided by the records-retention aspects of 10 CFR 50.71(c), which are discussed in the next-to-last paragraph under “Technical Specifications” above).

8. Consultations Outside NRC

The opportunity for public comment on the information collections requirements for this clearance package was published in the *Federal Register* on March 2, 2010 (75 FR 9444). No comments were received.

9. Payment of Gift to Respondents

Not applicable.

10. Confidentiality of the Information

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17(a) and 10 CFR 2.390(b). However, risk-informed submissions typically do not contain confidential or proprietary information.

11. Justification for Sensitive Questions

No sensitive information is requested.

12. Estimate of Burden and Burden Hour Cost

ISI and IST burdens are included in Section 16 of the OMB clearance for 10 CFR 50. However, the burden for CLB changes, including but not limited to CLB changes related to ISI and IST, is covered in Section 1 of the OMB clearance for 10 CFR 50 (license amendments). The number of licensing submittals listed in the tables below for ISI and IST are the additional annual submittals that are anticipated as a result of the risk-informed alternative method. These submittals were not anticipated under the present methodology, and thus are not covered by Section 16 and Section 1 of the present OMB clearance.

Plant licenses require that the sections of the licensees' Final Safety Analysis Reports (FSARs) that describe its ISI program be updated when the ISI programs are changed (e.g., when a risk-informed ISI program is adopted). This is a relatively minor effort since the necessary information will already have been

collected in support of the submittal that requests the change. Therefore, the “FSAR update” burden is included in the line items provided in the table below.

QA burdens are included in Section 15 of the OMB clearance for 10 CFR 50. However, the burden for CLB changes, including but not limited to CLB changes related to QA, is covered in Section 1 of the OMB clearance for 10 CFR 50 (license amendments). The single submittal listed in the tables below for GQA is the single additional annual submittal that is anticipated as a result of the risk-informed alternative method. This submittal was not anticipated under the present methodology, and thus is not covered by Section 15 and Section 1 of the present OMB clearance.

Burdens for all types of TS changes are included in Section 1 (license amendments) of the OMB clearance package for 10 CFR 50. Section 1 includes, but is not limited to, the relatively small sub-set of all TSs that are related to allowed outage times (AOTs) and surveillance test intervals (STIs), which are the only types of TSs that can be changed utilizing the risk-informed alternative method presented by the subject regulatory guides. Because the burden is accounted for in Section 1, no additional burden is included in this Section.

The estimated burden has been revised based on the actual reporting and ongoing recordkeeping related to plants that have made licensing changes. Also, there has been a change to the base burden cost from \$217 to \$257 per hour. The reason for each change is discussed in the corresponding paragraph in Item 15 below.



ANNUAL REPORTING REQUIREMENTS  
FOR SUBMITTALS REQUESTING RI PROGRAM APPROVALS

Section/ Reg. Guide	Number of Lic. Submittals	Hours per Submittal	Total Annual Burden (Hrs.)	Cost @ \$257/Hr.
10CFR50.55a(g) RG-1.178, ISI	10	530	5,300	\$1,362,100
10CFR50.55a(f) RG-1.175, IST <sup>(a)</sup>	0	550	0	0
10CFR50 App B RG-1.176, GQA <sup>(a)</sup>	0	550	0	0
10CFR50.36 RG-1.177, (TS)	12	400	4,800	1,233,600
10CFR50.36 RG-1.177, Emer./Exigent	5	100	500	128,500
10CFR50.69 RG 1.201, (RISC)	1	600	600	154,200
TOTALS	28		11,200	\$2,878,400

(a) RG 1.175 (IST) submittals have ceased due to equivalent relief from ASME Code Case OMN-3, and RG 1.176 (GQA) submittals have ceased due to issuance of 10 CFR 50.69 (RG 1.201, RISC).

ANNUAL RECORDKEEPING REQUIREMENTS  
TO SUPPORT SUBMITTALS REQUESTING RI PROGRAM APPROVALS

Section/ (Reg. Guide)	Number of Lic. Program Changes	Hours per Program Change	Total Annual Burden (Hrs.)	Cost @ \$257/Hr.
10CFR50.55a(g) RG-1.178, ISI	10	3,750	37,500	\$9,637,500
10CFR50.55a(f) RG-1.175, IST <sup>(a)</sup>	0	2,250	0	0
10CFR50 App B RG-1.176, GQA <sup>(a)</sup>	0	2,250	0	0
10CFR50.36 RG-1.177, (TS)	12	1,000	12,000	3,084,000
10CFR50.36 RG-1.177, Emer./Exigent	5	100	500	128,500
10CFR50.69 RG 1.201, (RISC)	1	1,500	1,500	385,500
<b>TOTALS</b>	<b>28</b>		<b>51,500</b>	<b>\$13,235,500</b>

(a) RG 1.175 (IST) submittals have ceased due to equivalent relief from ASME Code Case OMN-3, and RG 1.176 (GQA) submittals have ceased due to issuance of 10 CFR 50.69 (RG 1.201, RISC).

ANNUAL RECORDKEEPING REQUIREMENTS  
TO SUPPORT IMPLEMENTATION AND MONITORING PLAN

Section/ (Reg. Guide)	Number <sup>2</sup> of Lic. Program Changes	Hours per Program Change	Total Annual Burden (Hrs.)	Cost @ \$257/Hr.
10CFR50.55a(g) RG-1.178, ISI	98	200	19,600	\$5,037,200
10CFR50.55a(f) RG-1.175, IST <sup>(a)</sup>	3	200	600	154,200
10CFR50 App B RG-1.176, GQA <sup>(a)</sup>	1	200	200	51,400
10CFR50.36 RG-1.177, (TS)	100	50	5,000	1,285,000
10CFR50.36 RG-1.177, Emer./Exigent	0	0	0	0
10CFR50.69 RG 1.201, (RISC)	1	2,000	2,000	514,000
<b>TOTAL</b>	<b>203</b>		<b>27,400</b>	<b>\$7,041,800</b>

(a) RG 1.175 (IST) submittals have ceased due to equivalent relief from ASME Code Case OMN-3, and RG 1.176 (GQA) submittals have ceased due to issuance of 10 CFR 50.69 (RG 1.201, RISC).

Total reporting burden = 11,200 hours

Total recordkeeping burden = 78,900 hours (51,500 + 27,400 hours)

Total burden = 90,100 hours

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2 Recordkeeping for the implementation and monitoring plan is a continuing effort. After making a risk-informed change in the CLB, each licensee would be expected to expend this effort every year on a continuing basis.

13. Estimate of Other Additional Costs

*The quantity of records to be maintained is roughly proportional to the recordkeeping burden and therefore can be used to calculate approximate records storage costs. Based on the number of pages maintained for a typical clearance, the records storage cost has been determined to be equal to .0004 times the recordkeeping burden cost. Therefore, the storage cost for this clearance is estimated to be \$8,111 (78,900 hours x \$257 x .0004).*

14. Estimated Annualized Cost to the Government

*The following tables and text present this information.*

ANNUAL GOVERNMENT REVIEW OF  
REQUESTS FOR RI PROGRAM APPROVAL

Section/ (Reg. Guide)	Number of Reviews	Hours per Review	Total Annual Review (Hrs.)	Gov. Cost @ \$257/Hr.
10CFR50.55a(g) RG-1.178, ISI	10	400	4,000	\$1,028,000
10CFR50.55a(f) RG-1.175, IST <sup>(a)</sup>	0	1,000	0	0
10CFR50 App B RG-1.176, GQA <sup>(a)</sup>	0	750	0	0
10CFR50.36 RG-1.177, (TS)	12	400	4,800	1,233,600
10CFR50.36 RG-1.177, Emer./Exigent	5	100	500	128,500
10CFR50.69 RG 1.201, (RISC)	1	1,000 [c +600]	1,000	257,000
TOTAL	28		10,300	\$2,647,100

(a) RG 1.175 (IST) submittals have ceased due to equivalent relief from ASME Code Case OMN-3, and RG 1.176 (GQA) submittals have ceased due to issuance of 10 CFR 50.69 (RG 1.201, RISC).

ANNUAL GOVERNMENT REVIEWS/AUDITS OF RECORDS  
SUPPORTING IMPLEMENTATION AND MONITORING PLAN

Section/ (Reg. Guide)	Number <sup>3</sup> of Reviews/Audits	Hours per Review/Audit	Total Annual Rev./Aud. (Hrs.)	Cost @ \$257/Hr.
10CFR50.55a(g) RG-1.178, ISI	98	50	4,900	\$1,259,300
10CFR50.55a(f) RG-1.175, IST	3	40	120	30,840
10CFR50 App B RG-1.176, GQA	1	45	45	11,565
10CFR50.36 RG-1.177, (TS)	100	50	5,000	1,285,000
10CFR50.36 RG-1.177, Emer./Exigent	0	0	0	0
10CFR50.69 RG 1.201 (RISC)	1	100	100	25,700
<b>TOTAL</b>	<b>203</b>		<b>10,165</b>	<b>\$2,612,405</b>

This cost is fully recovered through fee assessments to NRC licensees pursuant to 10 CFR 170 and/or 10 CFR 171.

15. Reason for Change in Burden or Cost

Although the reporting and recordkeeping burdens per response have not changed, the overall estimated reporting burden hours have increased by 4,710 and the recordkeeping hours by 29,600 for several reasons. Additionally, there has been an increase in cost from \$217 to \$257 per hour. The change in burden is based on NRC staff experience since the previous reporting, as identified below.

**Burden Increases:**

Reporting, Recordkeeping, and Review Burden:

The licensee reporting and recordkeeping burden increased primarily due to the following reasons:

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<sup>3</sup> See footnote #1 (under previous table related to recordkeeping for implementation and monitoring plan)

- (1) The previous estimated number of RG-1.178 excluded the licensees' ten-year ASME update applications based on the assumption that these applications would be simple renewals of the previously-approved program for the licensee. However, the majority of licensee ten-year ASME update applications are implementing revised or different methodologies than were previously-approved for the licensee and thus, these update applications are essentially entirely new applications, requiring full review. This resulted in an annual increase of 7 licensee risk-informed in-service inspection applications, from 3 to 10, which increased the reporting hours by 3,710 and the recordkeeping hours by 26,250.
- (2) The number of risk-informed technical specification changes per RG-1.177 increased from 7 to 12 since the prior reporting period. This increase in applications is primarily due to the advancement and understanding of this type of application, based on similar previous applications by the licensees, along with the stabilization of the PRA technical adequacy requirements established by the RG-1.200 endorsement of PRA standards. This requirement increased the reporting hours by 2000 and the recordkeeping hours by 5000.

Implementation and Monitoring Burden:

The licensee implementation and monitoring burden, as well as the associated government audit and review of these programs, increased due to the increase in the number of licensees that have developed and implemented a risk-informed in-service inspection program per RG-1.178, from 90 to 98 licensee programs.

**Burden Decreases:**

Reporting and Recordkeeping Burden:

The reporting and recordkeeping burden for risk-informed emergency and exigent technical specification requests decreased from the previous estimate of 15 per year to 5 per year. This reduction is the direct result of few licensee requests for this type of risk-informed application observed since the last reporting period, thereby resulting in a reporting deduction of 1,000 hours as well as 1,000 recordkeeping hours. Additionally, the RG 1.176 (GQA) submittals have ceased due to issuance of 10 CFR 50.69 (RG 1.201, RISC), further reducing the recordkeeping by 2,250 hours.

16. Publication for Statistical Use

The information will not be published for statistical use.

17. Reason for Not Displaying the Expiration Date

The information collections contained in these regulatory guides are contained in a regulation. Revising the guides merely to update the expiration date unnecessarily expends agency resources.

18. Exceptions to the Certification Statement

There are no exceptions.

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

Statistical methods are not used in this collection of information.

FINAL SUPPORTING STATEMENT  
FOR  
10 CFR 50.70 TEAM INSPECTIONS OF POWER REACTOR LICENSEES

Description of the Information Collection.

Pursuant to the Atomic Energy Act of 1954, as amended, the U.S. Nuclear Regulatory Commission (NRC) has the responsibility and authority to regulate nuclear power plants. The NRC verifies licensees' compliance with NRC rules and regulations by conducting inspections. 10 CFR 50.70 requires power-reactor licensees to permit inspection of licensee records, premises, activities, and licensed material as necessary for the NRC to ensure public health and safety. For three types of inspections, the NRC requests licensees to submit relevant information before the inspection to improve efficiency and effectiveness for both the licensee and the NRC. Licensees are encouraged to transmit this information electronically to reduce burden on themselves and the NRC.

D. JUSTIFICATION

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

The Reactor Oversight Process (ROP) defines the inspection program for power reactors in Inspection Manual Chapter (IMC) 2515. Within the ROP, three types of inspections require extensive planning and preparation due to their scope and depth. In order to prevent inefficient use of licensee and NRC resources during these inspections certain relevant inspection information is needed prior conducting on-site inspections. The recordkeeping requirement for licensees to maintain this relevant inspection information is established in 10 CFR 50.71 and the burden is included in each relevant section of this clearance. The three inspection procedures (IPs) are listed below along with a description of needed information.

IP 71111.05, "Fire Protection [Triennial]" inspection is performed every three years. Information requested to prepare for this inspection includes a copy of selected system drawings and procedures; selected information related to system design, system risk, and licensing basis information; and a list of recent fire protection tests, recent problems, and corrective actions. This information is needed to assess the licensee's ability to safely shut down the plant after a fire.

IP 71111.21, "Component Design Bases Inspection" is performed every three years. Information requested to prepare for this inspection includes a list of recent system performance problems, corrective actions, system modifications, and operability evaluations; selected information related to component design (design calculations, design basis), component and operator action risk, and licensing basis information; and a copy of selected system diagrams, operating and surveillance testing procedures. This information is needed to assess whether a selected components or operator actions used to mitigate risk-significant accident sequences can be relied upon to meet functional requirements that would prevent damage to the reactor core during design basis events.



IP 71152, Identification and Resolution of Problems inspection is performed every two years. However, an additional inspection may be performed at a site if warranted by either declining plant performance (typically this triggers one additional inspection per year) or the need to follow-up on an independent safety culture assessment. Information requested to prepare for this inspection includes a list of recent equipment problems, self-assessments, root cause evaluations, and corrective action documents; and a copy of the corrective action program and equipment monitoring program procedures. This information is needed to gain insights regarding the licensee's ability to promptly identify and resolve problems.

2. Agency Use of Information.

The information requested is used by the inspectors responsible for evaluating licensee compliance with existing rules and regulations. The requested information is used to focus on-site inspection on the most significant licensee activities and help achieve more accurate inspection results during the short time available for on-site inspection. Accurate inspection results are needed to correctly assess licensee performance, to determine the level of agency oversight, and to allocate agency inspection resources efficiently. Inspectors also request information for other inspections, but these information requests involve issues unique to individual facilities and therefore are not subject to the Paperwork Reduction Act requirements. This off-site preparation improves effectiveness and minimizes the impact on licensees and NRC resources.

3. Reduction of Burden through Information Technology.

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them. NRC issued a regulation on October 10, 2003 (68 FR 58791), consistent with the Government Paperwork Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, e-mail, special Web-based interface, or other means. It is estimated that approximately 90 percent of the potential responses are filed electronically.

4. Effort to Identify Duplication and Use Similar Information.

No sources of similar information are available. There is no duplication of requirements. NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections.

5. Effort to Reduce Small Business Burden.

These information collections do not affect small business.

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

The licensee and NRC resources would be less effective and less efficiently utilized if relevant inspection information is not available or is available less frequently. That is, the NRC would have to accept less accurate inspection results or keep inspectors on site longer (who would engage supporting licensee resources longer) to achieve the same level of accuracy. This inspection information is needed to select the most risk significant inspection samples for these detailed and resource intensive inspections.

7. Circumstances which Justify Variation from OMB Guidelines.

Normally, this information collection will not vary from OMB guidelines. However, there may be occasions when the information will be requested in less than 30 days to ensure that the information is current.

8. Consultations Outside the NRC.

The opportunity for public comment on the information collections requirements for this clearance package was published in the *Federal Register* on March 2, 2010 (75 FR 9444). No comments were received.

9. Payment or Gift to Respondents.

Not applicable.

10. Confidentiality of the Information.

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17(a) and 10 CFR 2.390(b).

11. Justification for Sensitive Questions.

Not applicable.

12. Estimate of Industry Burden and Burden Hour Cost.

The following table reflects licensee burden to collect and report requested inspection information and is based on information from industry. There is no recordkeeping burden imposed by this information collection. There are 65 sites subject to the information collection. IP 71111.05 and IP 71111.21 inspections are done once every 3 years, and IP 71152 inspections are done every 2 years at each site. The number of annual responses for IP 71152 counts the number of sites based on inspection frequency (half the sites being inspected per year) plus one anticipated additional inspection based on declining performance.

## ANNUAL REPORTING BURDEN

IP	Number of Respondents	Responses per Respondent	Burden Hours per Response*	Total Annual Burden Hours	Cost @ \$257/Hr.
71111.05	22	1	164	3,608	\$927,256
71111.21	22	1	178	3,916	\$1,006,412
71152	34	1	85	2,890	\$742,730
TOTALS	78		427	0	0

\*Based on numbers supplied by the Nuclear Energy Institute (NEI) in 2006. These numbers are still valid since the scope of the information requested has not changed.

### 13. Estimate of Other Additional Costs.

The NRC has determined that the quantity of records to be maintained is roughly proportional to the recordkeeping burden and, therefore, can be used to calculate approximate records storage costs. Based on the number of pages maintained for a typical clearance, the records storage cost has been determined to be equal to 0.0004 times the recordkeeping burden cost. Because the recordkeeping burden is estimated to be 10,414 hours, the storage cost for this clearance is \$1,070 (10,414 hours x 0.0004 x \$257/hour).

### 14. Estimated Annualized Cost to the Federal Government.

The information submitted to the NRC is reviewed as a normal part of the routine inspection process and, therefore, incur minimal incremental cost to the government. This cost is fully recovered through fee assessments to NRC licensees pursuant to 10 CFR 170 and/or 10 CFR 171.

### 15. Reasons for Change in Burden or Cost.

The burden has decreased by 1,958 hours from 12,372 to 10,414 hours due to changing the periodicity of IP 71111.21 inspections being performed from every two to every three years. Based on past experience, the NRC adjusted and realigned resources that would be the most beneficial, these realignments resulted in an approximately 8 percent decrease in overall licensee burden. In addition, even though the cost per hour has increased from \$217 to \$257 per hour the overall cost to the licensee has actually decreased slightly. The number of respondents has not changed because the previous burden estimates, as based on the number of utilities, has remained constant.

### 16. Publication for Statistical Use.

This information will not be published for statistical use.

### 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.

There are no exceptions.

COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

Not applicable.

FINAL SUPPORTING STATEMENT  
FOR  
"RISK-INFORMED CATEGORIZATION AND TREATMENT OF STRUCTURES, SYSTEMS,  
AND COMPONENTS"

10 CFR 50.69

DESCRIPTION OF THE INFORMATION COLLECTION

Existing regulations in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, specify recordkeeping and reporting requirements associated with structures, systems, and components (SSCs) used in a nuclear power plant. Certain provisions of these regulations pertain to "treatment" requirements, meaning those quality assurance programs, testing, reporting requirements and other activities intended to add confidence that SSCs can perform their intended safety functions when needed. Section 10 CFR 50.69 provides a voluntary alternative set of requirements under which a licensee may obtain relief from some unnecessary regulatory burden for those SSCs that are determined through a risk-informed categorization process to be of low safety-significance. The regulation is intended to provide more flexibility to licensees in the application of treatment requirements for low safety-significant SSCs, by replacing some of the prescriptive programmatic requirements with more general performance requirements. Requirements are included to specify the process for obtaining the Nuclear Regulatory Commission (NRC) approval for implementing the alternative requirements and for licensee preparation of ongoing SSC performance evaluations against established standards. Recordkeeping and reporting requirements are modified only for those licensees or applicants who voluntarily choose to implement the alternative requirements of 10 CFR 50.69.

To use the alternative provisions of 10 CFR 50.69, a licensee or applicant must evaluate the safety significance of SSCs and categorize each SSC into one of four categories defined as risk-informed safety class (RISC)-1, RISC-2, RISC-3, and RISC-4. Section 50.69 establishes revised treatment and less prescriptive and burdensome information collection requirements for safety and non-safety SSCs categorized as performing low safety-significant functions (RISC-3 and RISC-4), but also contains requirements for on-going evaluations to ensure safety standards are maintained and that records of categorization decisions are maintained.

10 CFR 50.69 provisions may be used by power reactor applicants for a Part 50 or Part 52 license, as well as by holders of operating licenses issued under 10 CFR 50 or 10 CFR 54. A licensee or applicant choosing to use the provisions of 10 CFR 50.69 is required to obtain prior NRC approval of its categorization process and supporting probabilistic risk analysis, by either including the information in its application for license, or by submitting a license amendment request with the required information, using the existing licensing processes in 10 CFR 50.34, 10 CFR 50.90 or 10 CFR 52. The exact number of facilities affected by the section 50.69 information collection requirements is uncertain because of the voluntary nature of these requirements. It is estimated that three applications will be submitted in the next three years.

A. JUSTIFICATION

1. Need for the Collection of Information.

10 CFR 50.69(b)(1) identifies the special treatment requirements for which the alternative 50.69 treatment requirements may be substituted for licensees and applicant voluntarily implementing section 50.69. These alternative treatment requirements are in 10 CFR 50.69(d) and 10 CFR 50.69(e). This is an alternative to a number of the special treatment requirements that require information collections, specifically, the reporting requirements in 10 CFR 21; 10 CFR 50.49 qualification requirements, certain 10 CFR 50.55(e) notifications of defects and failures to comply; 10 CFR 50.55a in-service inspection and testing requirements (ISI/IST) and quality qualification requirements; 10 CFR 50.65 maintenance monitoring except for maintenance risk-assessment; 10 CFR 50.72 and 10 CFR 50.73 event reporting; and quality assurance requirements in 10 CFR 50 Appendix B.

For licensees choosing to use 10 CFR 50.69 for SSCs categorized as RISC-3 and RISC-4 in lieu of the regulatory sections cited above, paragraphs (d) and (e) contain new requirements that address the same basic program elements, but with less specificity on how they are to be conducted and documented. Therefore, although some information collections will still be necessary, the burden should be reduced. Much of the burden reduction will occur during activities, such as when a replacement component is procured or when operational events or equipment problems arise, with potential reportability. In addition, there may be some reduction during periodic inspections and tests.

10 CFR 50.69(b)(2) specifies that a power reactor licensee choosing to implement 10 CFR 50.69 must submit an application for a license amendment that includes a description of (1) the categorization process for RISC-1 through RISC-4 SSCs, (2) the measures taken to assure quality of the evaluation methods, including results of a peer review, and (3) the basis for acceptability for evaluations to be conducted to show that the potential increase in risk would be small considering the changes to treatment permitted by implementation of 10 CFR 50.69. An applicant for a Part 50 or Part 52 license would include this information as part of their application. A robust, risk-informed categorization process that provides high confidence that the safety significance of SSCs is correctly determined is the cornerstone of 10 CFR 50.69. The Probabilistic Risk Assessment (PRA) used to support SSC categorization provides important input to the categorization process, because results can be influenced by the completeness and technical adequacy of the PRA. Therefore, NRC needs to review the PRA and other categorization process information to confirm its acceptability. There is a one-time burden for licensees to prepare and submit this license amendment application, with resulting burden reductions expected later in reporting and recordkeeping requirements for RISC-3 and RISC-4 SSCs. Licensees are expected to use RG 1.201 (which endorses NEI 00-04) to develop their submittals. The burden associated with the submittal aspect of 10 CFR 50.69 is addressed in Section 33 of this analysis.

10 CFR 50.69(c) specifies how the categorization process is to be conducted. After approval of the application, the licensee or applicant then must perform evaluations of the significance of SSC functions, considering both internal and external events, and both active and passive functions in an integrated, systematic process, using an integrated decision-making panel to make the determination. To meet the requirements, a licensee (or applicant) needs to gather information to support preparation of the models (such as the PRA), gather information about the components within the systems, and prepare information about safety-significance. The majority of the burden is associated with the categorization process preparation and implementation. The NRC expects that implementation would occur over a period of years. Once the process has been approved, a licensee can begin to categorize on a system-by-system basis and take advantage of the reductions in treatment requirements for components in those systems. As stated in 10 CFR 50.69(f), records of categorization determinations are required to be prepared and maintained.

10 CFR 50.69(d)(1) contains requirements for a licensee to evaluate treatment being applied to RISC-1 and RISC-2 SSCs to ensure that it is consistent with categorization process assumptions. This is a one-time requirement associated with developing the basis for the categorization process. No explicit recordkeeping requirement is included.

10 CFR 50.69(d)(2) requires that a licensee or applicant develop and implement processes to control the inspection, testing, and corrective action for RISC-3 SSCs to provide reasonable confidence in their capability to perform functions under design basis conditions. These requirements include certain elements presently covered by 10 CFR 50 Appendix B (such as corrective action) and by 10 CFR 50.55a(f) and 10 CFR 50a(g) and 10 CFR 50.49. 10 CFR 50.69 requires that RISC-3 SSCs must be capable of performing their functions under specific conditions (environmental and seismic). Subparagraph (i) requires that inspection and testing activities be conducted. Subparagraph (ii) requires the licensee to identify and correct in a timely manner conditions that could prevent an SSC from performing its required functions. While specific records are not identified for retention, licensees will keep some records so that they can show how they comply with this requirement if inspected. Further, it is anticipated that most licensees will need to review their existing processes to determine whether they comply with the specific requirements and make changes to procedures, data bases, or other activities as a result. Therefore, there is a one-time implementation cost, with some reduction in annual costs for recordkeeping, following implementation for each licensee choosing to implement the 10 CFR 50.69 provisions.

10 CFR 50.69(e)(1) requires the licensee (or applicant) to review changes to the plant, operational practices, and operating experience to update the PRA and SSC categorization at least every 36 months. This requirement will result in a need for a licensee to retain information to be able to perform the required review.

10 CFR 50.69(e)(2) contains requirements for a licensee to monitor performance of RISC-1 and RISC-2 SSCs and make adjustments to either categorization or treatment processes as necessary to maintain the validity of the categorization process and results. This requirement necessitates the collection of information about the performance of SSCs so that the licensee can determine if results are such that changes to its processes are needed.

10 CFR 50.69(e)(3) requires consideration of data being collected to meet the inspection and testing requirements of 10 CFR 50.69(d)(2)(i) for RISC-3 SSCs to determine whether there are any adverse changes in performance and to make adjustments as necessary to either categorization or treatment processes such that categorization process results remain valid.

10 CFR 50.69(f)(1) requires that records of the categorization of SSCs be prepared. In accordance with 10 CFR 50.71(c), they must be retained until the license is terminated. This burden is included with the estimates for 10 CFR 50.69(c).

10 CFR 50.69(f)(2) requires that a licensee update its Final Safety Analysis Report (FSAR), consistent with provisions of 10 CFR 50.71(e) to reflect which systems have been categorized using 10 CFR 50.69. 10 CFR 50.71(e) specifies that the FSAR is to be updated such that the FSAR contains complete and accurate information. In implementing 10 CFR 50.69, licensees may need to revise their FSAR to the extent that it describes treatment requirements for SSCs (and submit the updated pages to NRC under existing 10 CFR 50.71(e)). A status of which systems fall under 10 CFR 50.69 requirements is required. This requirement has only a negligible impact on the update requirements.

Section 50.69(g) adds a requirement, if not otherwise reportable, to submit a licensee event report under 10 CFR 50.73(b) for any event or condition that would have prevented RISC-1 and RISC-2 SSCs from performing a safety-significant function. A small number of events would now be reportable that were not previously (e.g., some events affecting RISC-1 or RISC-2 SSCs). The NRC staff estimates that this would result in a small increase in reporting burden.

## 2. Agency Use of Information

The information to be submitted as part of an application to adopt the alternative requirements in 10 CFR 50.69, in lieu of other requirements, will be used by NRC to confirm that the categorization process to be used, as well as the PRA which will provide results used in the decision process, are adequate to meet regulatory requirements to appropriately categorize the SSCs. Thus, before the licensee or applicant is permitted to revise any existing requirements, NRC has the opportunity to confirm that the process is satisfactory.

The agency would use the reports involving safety-significant functions of RISC-1 and RISC-2 SSCs required by 10 CFR 50.69(g) to determine if reported defects or events involve potential generic safety problems that might require action to resolve.

## 3. Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them. NRC issued a regulation on October 10, 2003 (68 FR 58791), consistent with the Government Paperwork Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, e-mail, special Web-based interface, or other



means. It is estimated that approximately 0% of the potential responses are filed electronically. Due to the types of information and infrequency of submission, the reports do not lend themselves to the use of technology collection techniques.

4. Efforts to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of requirements. NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections.

5. Effort to Reduce Small Business Burden

This information collection only affects licensees of power reactors (or applicants for licenses) who are not small business entities.

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

The NRC would not be able to ensure the public health and safety with respect to having a sufficient basis to allow revisions to treatment of SSCs if the categorization information is not submitted for review.

7. Circumstances Which Justify Variation from OMB Guidelines

These information collections do not vary from OMB guidelines.

8. Consultations Outside the NRC

The opportunity for public comment on the information collections requirements for this clearance package was published in the *Federal Register* on March 2, 2010 (75 FR 9444). No comments were received.

9. Payment or Gift to Respondents

Not applicable.

10. Confidentiality of Information

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17(a) and 10 CFR 2.390(b). However, no information normally considered confidential or proprietary is requested.

11. Justification for Sensitive Questions

This information collection does not require sensitive information.

12. Estimated Industry Burden and Burden Hour Cost

The burden from recordkeeping and reporting requirements arising from this rulemaking is estimated as shown in the attached Tables. The burden estimate, including an estimate of one-time costs, is shown in the attached Tables. As noted, the NRC concludes that the effect of the changes on recordkeeping and reporting requirements will be a small increase in the current burden, because of the one-time implementation burden, with burden reductions expected in subsequent years. There is considerable uncertainty in these estimates for a number of reasons: voluntary nature (which affects the number of applicants); extent of SSCs that are RISC-3 or RISC-4 (which depends upon plant design); and burden impact (which depends upon events, need for replacement equipment, etc.). Costs for development of PRA and revisions to procedures would also vary depending upon the current state of the licensee's processes. Costs for applicants would be expected to be less since they would not yet have developed the programs and could factor the requirements into their process.

While one-time costs will be incurred by the licensee/applicant for development of PRA and procedures, conducting the categorization, and NRC review, NRC expects cost savings to result from the added flexibility being provided for licensees to apply less prescriptive requirements to some SSCs in using 10 CFR 50.69. Some of the savings will be with respect to records and reports, but the vast majority of the savings is expected to result from procurement of equipment at reduced costs and savings in licensee staff hours to implement the lesser treatment requirements for some SSCs.

13. Estimate of Other Additional Costs

The NRC has determined that the quantity of records to be maintained is roughly proportional to the recordkeeping burden and, therefore, can be used to calculate approximate records storage costs. Based on the number of pages maintained for a typical clearance, the records storage cost has been determined to be equal to 0.0004 times the recordkeeping burden cost. Because the recordkeeping burden is estimated to be 2,300 hours, the storage cost for this clearance is \$236 (2,300 hours x 0.0004 x \$257/hour).

14. Estimated Annualized Cost to the Federal Government

The estimated annualized burden and cost to the government is 100 hours per submittal for a total of \$25,700 (100 hrs. x 257/hr.). This cost is fully recovered through fee assessments to NRC licensees pursuant to 10 CFR 170 and 10 CFR 171.

15. Reasons for Change in Burden or Cost

The NRC anticipates that one licensee annually will choose to implement this voluntary alternative, thereby adding an estimated 2,350 hours annually until the one-time burden requirements have been completed. Because licensees will be choosing to implement the requirements in this section in lieu of the requirements in other current sections, the burden for those sections will be reduced by approximately 920 hours.

16. Publication for Statistical Use

The collected information is not published for statistical use.

17. Reason for not Displaying the Expiration Date

The requirements are contained in regulations. 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.

### ANNUAL REPORTING BURDEN

SECTION (3150-0011)	ESTIMATED NO. OF RESPONDENTS	ANNUAL RESPONSES PER RESPONDENT	TOTAL ANNUAL RESPONSES	BURDEN HOURS PER RESPONSE	TOTAL BURDEN HRS	COST @\$257/HR
50.69(g)	1	1	1	50	50	\$12,850
TOTAL ANNUAL REPORTING BURDEN					50	\$12,850

### ANNUAL RECORDKEEPING BURDEN

SECTION (3150-0011)	ESTIMATED NO. OF RECORDKEEPERS*	BURDEN HOURS PER RECORDKEEPER	TOTAL ANNUAL BURDEN HRS	COST @\$257/HR
50.69(d)(2)	2	535	1,070	\$274,990
50.69(e)	2	615	1,230	\$316,110
TOTAL ANNUAL RECORD- KEEPING BURDEN			2,300	\$591,100

Note: Estimates assume one third of current safety-related SSCs are RISC-3 and that burden of substitute requirements is in range of 1/3 to 3/4 of existing burden for data collections, depending upon the requirement. Estimates also include PRA update requirements and enhanced requirements for RISC-2 SSCs.

\*One application each year results in 1 recordkeeper the first year, 2 the second year, and 3 the third year for a total of 6/3 years = 2 recordkeepers annually.)

**ANNUALIZED ONE-TIME RECORDKEEPING BURDEN**

SECTION	NO. OF RESPONDENTS	BURDEN HOURS PER RECORDKEEPER	TOTAL ANNUAL BURDEN HRS	COST @\$257/HR
50.69(d)(1)	1	20	20	\$5140
50.69(c)	1	800	800	\$205,600
50.69(d)(2) and (e)	1	100	100	\$25,700
TOTAL ONE-TIME RECORDKEEPING BURDEN			920	\$236,440

Estimated cost for review and revision of licensee procedures for treatment practices to meet 10 CFR 50.69(d) and (e). Annualized cost for categorization and documentation of basis for decisions under 10 CFR 50.69(c) assumes implementation occurs over 3 years, but the licensee has the option to use a different period.

Total responses: 1

Total respondents: 1

Total annualized burden: 3,270 hours (50 hrs. reporting + 3,220 hrs. recordkeeping)

Total cost: \$840,390 (3,270 burden hrs. X \$257/hr)