

SUPPORTING STATEMENT FOR PROPOSED RULE
10 CFR PART 50

“RISK-INFORMED CHANGES TO LOSS-OF-COOLANT
ACCIDENT TECHNICAL REQUIREMENTS”

(OMB CLEARANCE NO. 3150-0011)

DESCRIPTION OF THE INFORMATION COLLECTION

Existing regulations in 10 CFR Part 50 specify reporting and recordkeeping requirements associated with emergency core cooling systems (ECCS) used in a nuclear power plant. The subject rulemaking would revise certain provisions of these regulations as they pertain to ECCS evaluation requirements for loss-of-coolant accidents (LOCAs), meaning those analyses, programs, reporting requirements, and other activities intended to demonstrate that ECCS can perform their intended LOCA safety functions when needed. The rulemaking provides, in a new Section 50.46a, a voluntary alternative set of requirements under which a licensee may obtain relief from some unnecessary regulatory burden for those LOCAs that are determined to be of low safety-significance (i.e., large break (LB) LOCAs). The rule is intended to provide more flexibility to licensees in the application of requirements for low safety-significant LOCAs, by replacing some of the prescriptive programmatic requirements with more general performance requirements. In addition, requirements are being included to specify the process for obtaining NRC approval for implementing the alternative requirements and for licensee preparation of required information against established criteria. The rule provisions would modify certain recordkeeping and reporting requirements only for those licensees who choose to implement the alternative requirements. The rule provisions may be used only by current holders of operating licenses issued under Part 50. A licensee choosing to use the provisions of Section 50.46a would be required to submit a license amendment request with the required information, using the existing processes in Section 50.34, Section 50.59, Section 50.90, or Part 52. The exact number of facilities affected is uncertain because the information collection is associated with a voluntary alternative requirement.

Information received from the regulated community indicated that although PWRs saw potential benefit from the rule, BWRs did not see much cost-benefit in it. The staff also did not expect BWRs to be able to take advantage of the rule as much as PWRs. Accordingly, this supporting statement and the Regulatory Analysis accompanying the proposed rule assume that all 69 PWRs will use the rule to seek certain changes in their facilities, but no BWRs will. Moreover, the high burden of the rule means that licensees would need to expect a significant savings to justify the investment. Although changes that can be made under the rule such as power uprates definitely can provide an economic incentive for use of the rule, financial analysis indicates that other changes prominently identified as potential benefits, such as the relaxation of emergency diesel generator (EDG) start times, offer only a marginal business case even for many PWRs. The Regulatory Analysis and this supporting statement assume that licensees will seek to piggy-back 50.46a EDG amendment requests and 50.46a uprate amendment requests with a common ECCS re-analysis to achieve some efficiencies.

This supporting statement and the Regulatory Analysis accompanying the proposed rule do not anticipate that licensees will take advantage of the 50.46a(f)(1) provision that would enable them to make changes that are inconsequential to safety without NRC review and approval. As

noted above, the PWRs are all expected to use the 50.46a rule to secure changes following NRC review and approval, while the BWRs are not expected to use the rule at all. These expectations will be re-assessed based on comments received on the proposed rule and any changes incorporated into the final rule based on those comments. Therefore, no licensees are expected to use 50.46a(f)(1) as currently drafted.

Section 50.34(a)(4) and (b)(4) require preliminary and final analysis and evaluation of ECCS cooling performance and the need for high point vents following postulated LOCAs to be performed either in accordance with the requirements of §50.46 or, as amended, with the proposed requirements of §50.46a for existing licensees. This information is needed to ensure that the reactor operates within the limits required to protect public health and safety. The burden for licensees choosing to do a reanalysis is included in the burden estimate for §50.46a(e).

Section 50.46(a)(1) contains acceptance criteria for ECCS systems, including a requirement for sufficient supporting justification and, through reference to Appendix K, required documentation. The proposed amendments to this section would allow power reactor licensees to voluntarily comply with the alternative requirements of Section 50.46a. The burden of complying with alternative criteria for ECCS systems is included in the burden estimate for §50.46a(e).

Section 50.46a(c)(1) would specify that a licensee choosing to implement Section 50.46a must submit a license amendment application under §50.90 that includes:

(i) A description of the method(s) for demonstrating compliance with the ECCS criteria in paragraph (e);

(ii) A description of the risk-informed integrated safety performance (RISP) assessment process to be used in evaluating whether proposed changes to the facility, technical specifications, or procedures meet the requirements in paragraph (f); including:

(A) a description of the licensee's PRA model and non-PRA risk assessment methods demonstrating compliance with paragraphs (f)(4) and (f)(5).

(B) a description of the methods and decisionmaking process for evaluating compliance with the risk criteria, defense-in-depth criteria, safety margin criteria, and performance measurement criteria.

The estimated burden for license amendments under §50.90 is included in Section 1 of the Part 50 OMB clearance.

Section 50.46a(d)(1)-(4) would require a licensee whose application under paragraph (c) is approved by the NRC to comply with the following operating requirements: (1) the licensee shall maintain ECCS model(s) and/or analysis method(s) meeting the acceptance requirements in paragraphs (e)(1) and (e)(2); (2) the acceptance criteria in paragraphs (e)(3) and (e)(4) shall not be exceeded under any allowed at-power operating configurations analyzed under paragraph (e), and the plant may not be placed in any at-power operating configuration not addressed under paragraph (e); (3) the licensee shall evaluate any change to the facility as described in the FSAR, technical specifications, or procedures using the NRC-approved RISP

assessment process and shall demonstrate that the acceptance criteria in paragraph (f) are met; and (4) the licensee shall implement adequate performance-measurement programs, which meet the criteria in paragraph (f)(3)(iii), to ensure that the RISP assessment process reflects actual plant design and operation.

The burden for maintaining ECCS models and/or analysis methods is included in the burden for paragraph (e). The burden for evaluating any changes to the facility, technical specifications, or procedures is included in the burden for paragraph (f)(3). The burden for implementing adequate performance-measurement programs to ensure that the RISP assessment process reflects actual plant design and operation is included in the burden for paragraph (f)(3).

Section 50.46a(d)(5) would require the licensee that received approval to implement changes to periodically re-evaluate and update its risk assessments required under paragraph (c)(1)(ii) to address changes to the plant, operational practices, equipment performance, plant operational experience, changes in the PRA model, revisions in analysis methods, model scope, data, and modeling assumptions. Such re-evaluations and updates must be conducted no less than once every two refueling outages and continue to meet the requirements of paragraphs (f)(4) and (f)(5). Based upon the updated risk assessments, the licensee shall take appropriate action to ensure that facility design and operation continue to be consistent with the risk assessment assumptions used to meet the acceptance criteria in paragraphs (f)(1) or (f)(2), as applicable, and (f)(3). The licensee would need to retain the prior risk assessment information to be able to perform the required re-evaluation and update.

Section 50.46a(e) establishes alternative criteria for ECCS performance evaluation models and requires that the models for SB LOCAs receive NRC approval and meet the criteria in (e)(3). This section also includes, through reference to Appendix K, required documentation for evaluation models for SB LOCAs. The paragraph requires that analysis methods for LB LOCAs must be maintained, available for inspection, and include the analytical approaches, equations, approximations, and assumptions. Whereas the evaluation model requirements for small break (SB) and LB LOCAs are the same under §50.46, the requirements differ for SB and LB LOCAs under optional §50.46a.

Sections 50.46a(e)(1) and (3) describe ECCS evaluation requirements and acceptance criteria for SB LOCAs and require sufficient calculations for a number of postulated SB LOCAs to ensure that the analytical technique is realistic. Licensees using 50.46a must meet either the ECCS evaluation model requirements under Section I to Appendix K or requirements identical to §50.46(a) with respect to SB LOCAs, found in paragraph (e)(3).

Sections 50.46a(e)(2) and (4) impose less stringent ECCS evaluation model requirements and acceptance criteria to LB LOCAs. For LOCAs involving breaks larger than the transition break size (i.e., LB LOCAs), paragraph (e)(2) of the proposed rule would establish new ECCS evaluation requirements that cover the same basic program elements as for SB LOCAs, but that are more realistic and less stringent. For LB LOCAs, the analysis method need not meet the technical requirements of Section I to Appendix K or the detailed SB LOCA requirements of paragraph (e)(1); rather, the analysis method must address the “most important phenomena” in analyzing the course of the accident. For LB LOCAs, sufficient supporting justification must be available to show that the analytical technique “reasonably describes” the behavior of the reactor system, rather than the paragraph (e)(1) requirement for SB LOCAs that sufficient supporting justification be available to show that the model “realistically describes” that behavior. Proposed paragraph (e)(2) does not contain the requirement applicable to SB

LOCAs that uncertainties “be identified and assessed.” Finally, paragraph (e)(2) requires that the acceptance criteria of paragraph (e)(4) be satisfied. Because the proposed requirements for LB LOCAs provide more flexibility to the licensee, they may result in some reduction in level of detail from existing requirements; however, because there is no experience with this process, such an assumption may not be realistic.

Therefore, although the §50.46a(e) information collection may be somewhat reduced for LB LOCAs, the total ECCS evaluation burden under §50.46a likely will not decrease compared to current §50.46 because, instead of performing one more stringent analysis for all types of breaks, a licensee must perform separate ECCS analyses for SB and LB LOCAs. Therefore, under §50.46a there will be two sets of ECCS analyses (i.e., the stringent one for SB LOCAs and the less stringent one for LB LOCAs) as opposed to one set under §50.46.

Paragraph (e) states that the analysis methods for LB LOCAs must be maintained and available for inspection. While specific records for SB LOCAs are not identified for retention in §50.46a(e), licensees are expected to retain all documentation (as required by Part II of Appendix K, as amended) for SB LOCAs so that they could show how they comply with this requirement if inspected.

Section 50.46a(f) requires a licensee who wishes to make changes to its facility, procedures, or technical specifications to perform a RISP assessment. Although the proposed rule does not define a “RISP assessment” itself, various provisions throughout the rule address the RISP assessment process (i.e., paragraphs (c)(1)(ii), (c)(2)(ii) & (iii), (d)(3) & (4)) and information from the RISP assessment (i.e., paragraphs (f)(1)(ii), (f)(2)(ii), (f)(3)(iii), (f)(5)). There is a one-time burden for licensees to prepare and submit a RISP assessment for proposed changes to its facility, technical specifications, and procedures. It is expected that two 50.46a RISP assessments will be received from each PWR after the rule becomes effective. Conceivably, the two assessments could be consolidated, but this would have no impact on the estimated burdens because the two RISP assessments address different facility changes (i.e., power uprates and relaxation of EDG start times, respectively). Licensees must document the basis for these assessments and the bases demonstrating compliance with the acceptance criteria, per §50.46a(h).

While specific records are not identified for retention in 50.46a(f)(1)-(4), licensees are expected to retain all documentation so that they could show how they comply with this requirement if inspected.

Sections 50.46a(f)(1) and (f)(3) establish a process and criteria whereby a licensee may make changes to its facility and procedures based upon the 50.46a(c) analysis of ECCS performance without prior NRC review and approval. The change must be permitted under §50.59 – which does not allow changes to technical specifications incorporated in the license – and the RISP assessment must demonstrate that any increases in the estimated risk are minimal compared to the overall plant risk profile, and the criteria in paragraph (f)(3) are met.

Current section 50.59(d)(1) requires that licensees maintain records of changes, including a written evaluation of the bases for the determination that the change does not require a license amendment. Per §50.59(d)(3), records of changes in procedures must be maintained for a period of 5 years. Section 50.59(d)(2) requires licensees to submit, as specified in §50.4, a report containing a brief description of any changes, including a summary of the evaluation of each; the report must be submitted at intervals not to exceed 24 months.

The extensive burden required to implement changes using the 50.59 process allowable under paragraph 50.46a(f)(1) leads NRC to conclude that licensees may not take advantage of this provision unless they have changes to their facilities or procedures that would save large amounts of money while having minimal safety significance. Such scenarios have not been identified by the licensee community to date.

Section 50.46a(f)(2) would provide a process and criteria for implementing changes not permitted under paragraph (f)(1). The licensee must submit an application for license amendment under §50.90. The application must contain: (i) the information required under §50.90; (ii) information from the RISP assessment demonstrating that the total increases in core damage frequency and large early release frequency are small and the overall risk remains small, and the criteria in paragraph (f)(3) are met; and (iii) information demonstrating that the acceptance criteria for LOCA's in paragraphs (e)(3) and (e)(4) are met.

The burden associated with §50.90 license amendments is included in Section 1 of the Part 50 OMB Clearance.

Section 50.46a(f)(3). All changes to a facility or procedures as described in the FSAR or to the technical specifications must meet the following criteria:

(i) Defense in depth is maintained, in part, by assuring that:

(A) Reasonable balance is provided among prevention of core damage, containment failure, and consequence mitigation;

(B) System redundancy, independence, and diversity are provided commensurate with the expected frequency of postulated accidents, the consequences of those accidents, and uncertainties; and

(C) Independence of barriers is not degraded;

(ii) Adequate safety margins are retained to account for uncertainties; and

(iii) Adequate performance-measurement programs are implemented to ensure the RISP assessment continues to reflect actual plant design and operation. These programs shall be designed to:

(A) Detect degradation of the system, structure or component before plant safety is compromised,

(B) Provide feedback of information and timely corrective actions, and

(C) Monitor systems, structures or components at a level commensurate with their significance.

Section 50.46a(f)(4) of the proposed rule lays out specific technical requirements to the extent that a probabilistic risk assessment (PRA) is used in the RISP assessment, although paragraph (f)(2) does not require use of PRA in assessing risks associated with the proposed changes. The PRA must: (i) address initiating events from sources both internal and external to the plant and for all modes of operation, including low power and shutdown modes, that would affect the

regulatory decision in a substantial manner; (ii) calculate CDF and LERF; (iii) reasonably represent the current configuration and operating practices at the plant; and (iv) have sufficient technical adequacy (including consideration of uncertainty) and level of detail to provide confidence that the total CDF and LERF and the change in total CDF and LERF adequately reflect the plant and the effect of the proposed change on risk.

Section 50.46a(f)(5) requires that to the extent that risk assessment methods other than PRA are used to develop estimates of changes to CDF and LERF, the licensee must justify that the methods used produce realistic results.

While specific records are not identified for retention in 50.46a(f)(4) and (5), licensees are expected to retain all documentation so that they could show how they comply with these requirements if inspected.

Section 50.46a(g)(1) contains reporting requirements for changes to or errors in evaluation models, analysis methods, or their applications. Section 50.46a(g)(1) mirrors existing reporting requirements in §50.46(a)(3). The proposed rule, however, adds a new reporting requirement for the SB LOCA in §50.46a(g)(1)(i) concerning oxidation. Similar to §50.46(a)(3)(ii), proposed §50.46a(g) requires at least annual reporting, as specified in §50.4, of each change to or error discovered in an ECCS evaluation model or in its application that affects the results. If the change or error is determined to be significant, the report must be provided within 30 days and must include a proposed schedule for providing a reanalysis or taking other actions to demonstrate compliance, just as is required by current Section 50.46(a)(3)(ii). Any change or error correction that results in a calculated ECCS performance that does not conform to (e)(3) or (e)(4) acceptance criteria is a reportable event as described in §50.55(e), §50.72, and §50.73; this provision is identical to language in §50.46(a)(3)(ii). The reporting process and timetables remain the same as existing §50.46(a)(3). Because NRC assumes no additional items in the annual report and no additional 30-day reports, the proposed rule is expected to create no additional burden of reporting changes or errors. The reporting burden under §50.46(a)(3)(ii) and associated recordkeeping are included in Section 7 of the Part 50 OMB clearance (3150-0011).

Section 50.46a(g)(2) adds a new reporting requirement related to updates of PRAs required by §50.46a(d)(5). If changes result in a significant reduction in the capability to meet the requirements in paragraph (f), the licensee must file a report within 60 days of completing the PRA update and include required information, such as a description of the relevant PRA updates performed by the licensee, an explanation of the changes that led to the increase(s) in CDF or LERF, and a description and schedule of any corrective actions required under paragraph (d)(5). Because such changes in risk are not expected, the proposed rule is expected to create no additional reporting burden. Recordkeeping will be needed to demonstrate that reporting is not required. The required recordkeeping burden is included in the burden for the risk assessment update requirement of 50.46a(d)(5).

Section 50.46a(g)(3) would require each participating licensee to submit, each 24 months, a short description of all changes involving minimal changes in risk made under paragraph (f)(1) since the last report. Because NRC does not expect licensees to use paragraph (f)(1), no reporting and recordkeeping burden is associated with this provision.

Section 50.46a(h) would require that a licensee update its FSAR, consistent with provisions of Section 50.71(e), to reflect approval of the change under (f)(2) or implementation of the change

under (f)(1). Existing requirements in Part 50 specify that the FSAR is to be updated such that the FSAR contains complete and accurate information. As a result of implementation of Section 50.46a, licensees will need to revise their FSAR to the extent that it describes facilities and procedures that will be changed (and submit the updated pages to NRC under existing Section 50.71(e)). This requirement is seen as having only a negligible impact, and the burden for periodic updates of the FSARs is included in Section 27 of the Part 50 OMB clearance (3150-0011).

This section also would require that licensees document the bases for demonstrating compliance with the acceptance criteria in paragraphs (f)(1) or (f)(2) and (f)(3). The burden for these required documentations is included in the burden for 50.46a(f)(1) and (f)(2).

Section 50.46a(m) specifies that if the transition break size (TBS) is increased, each licensee subject to §50.46a must perform the ECCS evaluations required by §§ 50.46a(e)(1) and (e)(2) and reconfirm compliance with the acceptance criteria in §§ 50.46a(e)(3) and (e)(4). If the licensee cannot demonstrate compliance, then it must modify its facility, technical specifications, or procedures so that the acceptance criteria are met. Changes to transition break sizes would not likely occur until ten or more years following implementation of the rule. However, NRC believes it is unlikely that it will be required to increase the break size in the future; therefore, this provision is not expected to create any additional burden.

A. JUSTIFICATION

1. Need for the Collection of Information

The records and reports being required by Section 50.46a are needed to enable the NRC to assure that the licensee is properly exercising the authority granted by this section and complying with its requirements. Without these records and reports, NRC's ability to protect the health and safety of the public would be reduced. These records would be used by NRC inspectors as background information for conducting inspections at a licensed facility. The inspector would use these records to confirm the appropriateness of changes being applied to a plant by confirming that they were properly implemented.

2. Agency Use of Information

The information to be submitted as part of an application to adopt the alternative requirements in Section 50.46a, in lieu of other requirements, will be used by NRC to confirm that the change process to be used, as well as the PRA which will provide results used in the decision process, are adequate to meet the rule requirements to appropriately authorize the changes. Thus, before the licensee would be permitted to revise any existing requirements, NRC would have the opportunity to confirm that the process is satisfactory (e.g., the adequacy of the calculation methods used to evaluate ECCS performance).

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 58792), 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. Because of the complexity of this new, voluntary rule, NRC cannot estimate what percent of the potential responses would be filed electronically.

4. Efforts to Identify Duplication and Use Similar Information

The information is not required by any other Federal regulation. This information can only be obtained from licensees of power reactors.

5. Effort to Reduce Small Business Burden

This information collection affects only licensees of power reactors 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 plant design or operations if the information is not submitted for review.

7. Circumstances Which Justify Variation from OMB Guidelines

With the exception of §50.46a(g)(1), these information collections do not vary from OMB guidelines. Section 50.46a(g)(1) specifies a 30-day reporting period for significant changes or errors in ECCS analyses, which is identical to the existing requirement in §50.46(a). The 30-day period is necessary in light of the potential safety issues posed by significant changes or errors requiring immediate resolution.

8. Consultations Outside the NRC

The NRC held a public meeting on August 17, 2004, having first made draft rule language available to the public on August 2, 2004. Several comments oriented toward the regulatory analysis were received in September 2004. Further opportunity for public comment on the proposed reporting and recordkeeping requirements associated with Section 50.46a will be offered when the proposed rule is published in the Federal Register.

9. Payment or Gift to Respondents

Not applicable.

10. Confidentiality of Information

No confidential information is generally received. However, proprietary or confidential information is handled in accordance with Section 2.390 of the NRC regulations.

11. Justification for Sensitive Questions

This information collection does not require sensitive information.

12. Estimated Industry Burden and Burden Hour Cost

For purposes of this estimate, NRC has used the assumptions in its most recent 10 CFR Part 50 renewal to the Office of Management and Budget, except for those aspects specifically modified by the rulemaking. The burden estimate is shown in the attached tables. Although the information collections primarily are one-time costs, they are expected to be spread over a three-year period after the rule is finalized. There is considerable uncertainty in these estimates for a number of reasons, particularly the voluntary nature of the rule (which affects the number of applicants). Costs for ECCS re-analysis and development of the PRA component of the applications would also vary depending upon the current state of the licensee's processes.

Based on staff experience, the average burden per PWR for performing a 50.46a(e) ECCS analysis is 2,500 hours, at a cost of \$512,500 (2,500 hours x \$205/hour). Assuming that all 69 PWRs conduct an ECCS re-analysis, over a 3-year period, 23 reactors will perform the analysis each year for an annual burden of 57,500 hours (23 x 2,500 hours) at a cost of \$11,787,500 (57,500 x \$205). Recordkeeping is estimated at 10 percent of the 2,500 hour burden or an additional 250 hours. The first year, 23 PWRs will incur this burden for a total of 5,750 hours (23 x 250); the second year, 23 additional PWRs will incur this burden for a total of 11,500 hours (46 x 250); the third and subsequent years, all 69 PWRs will incur this burden for a total of 17,250 hours per year (69 x 250). Therefore, the annualized recordkeeping burden would be 11,500 hours (5,750 + 11,500 + 17,250 hours/3 years) at a cost of \$2,357,500 (11,500 hours x \$205/hour).

NRC estimates that the cost to industry for preparing the 50.46a(f) RISP assessment amendment will require 4,590 hours per application. Assuming that all 69 PWRs submit the equivalent of two RISP assessments each (whether packaged together or separately) over a 3-year period, 23 reactors will submit two RISPs each year for a burden of 211,140 hours (23 x 2 x 4,590 hours). Over the 3-year period, the total burden will be 633,420 hours (3 x 211,140). Recordkeeping is estimated at 10 percent of the 4,590 hours or an additional 459 hours per RISP assessment. The first year, 23 PWRs will incur recordkeeping for the documentation associated with the two RISPs for a total of 21,114 hours (23 x 2 x 459); the second year 23 additional PWRs will incur this burden for a total of 42,228 hours (46 x 2 x 459); the third and subsequent years, all 69 PWRs will incur this burden for a total of 63,342 hours per year (69 x 2 x 459). Therefore, the annualized recordkeeping burden would be 42,228 hours (21,114 + 42,228 + 63,342 hours/3 years) at a cost of \$8,656,740 (42,228 hours x \$205/hour).

To review plant changes and experience and update its risk assessment as required by 50.46a(d)(5), it is estimated that a licensee will require 400 hours at least once every two refueling outages (i.e., starting 2011), at a cost of \$82,000 (400 hours x \$205/hour). Assuming that the 69 PWRs' performance of the risk assessment updates is randomly distributed over a three-year period approximating two refueling outages, then the annual burden would be 9,200 hours (23 PWRs x 400 hours). Recordkeeping is estimated at 10 percent of the burden of 400 hours or an additional 40 hours. This recordkeeping burden commences for each PWR following approval of its amendment request. Thus, after the first three years (i.e., starting in 2011), the annual recordkeeping burden would be 2,760 hours (69 x 40 hours).

NRC assumes that all 69 PWR licensees will take advantage of this alternative over the three years following its promulgation; the following tables indicate the full estimated burden and cost. While one-time and recurring costs will be incurred by the licensee for conducting the ECCS analyses, development of the RISP assessment, submission of the license amendment

request, and risk updates, NRC expects substantial net benefits to result from the added flexibility being provided for licensees to change facility design, procedures, and technical specifications by using Section 50.46a. Some of the savings may be with respect to records and reports, but the vast majority of the benefits is expected to result from facility changes, such as power uprates. These non-information collection burden benefits are discussed in the regulatory analysis.

13. Estimate of Other Additional Costs

None.

14. Estimated Annualized Cost to the Federal Government

The NRC is expected to receive for review from all 69 PWRs (a) ECCS re-analyses and (b) two RISP assessments from each PWR. The estimated total review burden is 372,600 hours (5,400 hours x 69) and \$76,383,000 (372,600 hours x \$205) over a period of 3 years (2007-2009) or 124,200 hours for an average of 23 responses annually at a cost of \$25,461,000 per year.

Review of updated risk assessments will require 200 hours each. Starting about 3 years after approval of the first group of amendment requests, NRC estimates that it will receive 23 risk assessment updates per year to review for an annual burden of 4,600 hours (200 hours x 23) at a cost of \$943,000 (4,600 hours x \$205).

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

15. Reasons for Change in Burden or Cost

The rule is estimated to result in a net increase in the information collection burden. The majority of this burden is associated with the one-time burden to obtain the NRC approval to implement Section 50.46a.

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.

One-Time Annualized Information Collection and Reporting Burden and Cost to Industry

Information Collection Section	Number of Respondents	Number of Responses Per Respondent	Total Responses	Burden per Response	Total Burden Hours	Industry Cost @ \$205/Hour
50.46a(e) ECCS Evaluations (Reanalyses)*	23	1	23	2,500	57,500	\$11,787,500
50.46a(f)(3) RISP Assessments*	23	2	46	4,590	211,140	43,283,700
50.46a(f)(1) Applications to Make Changes Without NRC Review or Approval	0	0	0	N/A	0	0
50.46a(j) Evaluation Triggered by Increases to TBS	69	0	0	N/A	N/A	N/A
Total	23	3	69	N/A	268,640	\$55,071,200

Annual Information Collection and Reporting Burden and Cost to Industry

50.46a(d)(5) Risk Assessment Update**	23	1	23	400	0	N/A
50.46a(g)(1) Reporting Changes in ECCS****	69	N/A	N/A	N/A	N/A	N/A
50.46a(g)(2) Reporting Changes in CDF and LERF**	69	0	0	100	0	0
50.46a(g)(3) Reporting Associated with (f)(1)	0	0	0	N/A	N/A	N/A
50.46a(h) FSAR Updates***	69	N/A	N/A	N/A	N/A	N/A
Total	69	N/A	N/A	N/A	0	N/A

* 23 submittals expected annually during 2007 through 2009.

** Starting in 2011. Therefore, the burden per response is estimated but no burden is being implemented until the requirement is implemented. At that time the burden will be included in the 10 CFR 50 clearance renewal (3150-0011).

*** Burden included in Section 27 of Part 50.

**** Burden included in Section 7 of Part 50.

Annual Recordkeeping Burden and Cost to Industry*

Recordkeeping Section	Annual Number of Recordkeepers	Burden Hours per Recordkeeper	Total Annual Burden Hours	Annual Industry Cost @ \$205/Hour
50.46a(e) Records of ECCS Evaluations	46	250	11,500	\$2,357,500
50.46a(f)(3) Recordkeeping for Two RISP Assessments	46	918	42,228	\$8,656,740
50.46a(f)(1) Records of Changes Made Without NRC Review or Approval	0	N/A	0	0
50.46a(g)(2) Records of Risk Assessment Results	46	40	1,840	\$377,200
50.46a(h)(3) Records of Reporting Associated with (f)(1)	0	N/A	0	0
50.46a(m) Records of Evaluations and Actions Triggered by Increases to TBS	0	N/A	0	0
Total	46	1,208	55,568	\$11,391,440

* No recordkeeping would be implemented until 2007. Starting in 2007, 23 licensees will be subject to the recordkeeping, in 2008, 46 will be subject; and in 2009 and the following years all 69 PWR licensees will be subject to the recordkeeping requirements. The burden has been annualized for years 2007 through 2009.

TOTAL RESPONDENTS: 23 one-time; 69 ongoing (after 2011)

TOTAL RESPONSES: 46 (23 one-time + 23 additional recordkeepers)

TOTAL ANNUAL BURDEN (Years 2007-2009): 324,208 hours (268,640 hours reporting + 55,568 hours recordkeeping)