FINAL SUPPORTING STATEMENT FOR
10 CFR PART 50
ISSUANCE, LIMITATIONS, AND CONDITIONS OF LICENSES AND CONSTRUCTION PERMITS
SECTION 5

(50.54(hh)(1) Procedures for aircraft threat; 50.54(cc), Bankruptcy Notifications; 50.55(e), Design and Construction Deficiencies; 50.55(f), Appendices A & B, Quality Assurance; 50.55a, ASME Codes; 50.59(c) and (d), Reports; Appendices G & H, 50.60, Fracture Toughness 50.61, Pressurized Thermal Shock; 50.62, ATWS; 50.63, Station Blackout; 50.64, Highly Enriched Uranium; 50.65, Maintenance; and 50.66, Thermal Annealing)

3150-0011

ABSTRACT

The U.S. Nuclear Regulatory Commission (NRC) is authorized by Congress to have responsibility and authority for the licensing and regulation of nuclear power plants, research/test facilities, fuel reprocessing plants and other utilization and production facilities licensed pursuant to the Act. To meet its responsibilities, the NRC conducts a detailed review of all applications for licenses to construct and operate such facilities. The purpose of the detailed review is to ensure that the proposed facilities can be built and operated safely at the proposed locations, and that all structures, systems and components important to safety will be designed to withstand the effects of postulated accident conditions, without undue risk to the health and safety of the public.

Under 10 CFR Part 50, before a company can build a nuclear power plant at a particular site, it must obtain a construction permit from the NRC. Subsequently, the company must obtain an operating license from the NRC before it can operate the plant. The decision by the NRC as to whether to approve a company's application for a construction permit or an operating license is based largely on the NRC staff's detailed review of the information provided by the company as part of its application. Information provided by the applicant as part of the application is crucial to the licensing process as it provides the NRC with the information it needs to make a decision with regard to the proposed plant's impact on the public's health and safety and the environment.

The Commission issues a license or construction permit, with appropriate conditions and limitations (including technical specifications), after determining that an application for a license meets certain standards and requirements. Licensees must maintain records and prepare reports to demonstrate their fulfillment of regulatory requirements. The information collection requirements in this section include:

- procedures to address preparatory actions in the event of potential aircraft threat or a beyond-design basis threat;
- notification in cases of bankruptcy;
- reports of deficiencies occurring during the design and construction of nuclear power plants;
- maintenance of records of the design, fabrication, erection and testing of structures, systems and components important to safety throughout the life of the unit;
- maintenance of records of changes in the facility of changes in procedures and of tests and experiments and to submit a report containing a brief description of any changes, tests and experiments, including a summary of the evaluation of each;
- test methods for supplemental fracture toughness; proposed schedules for meeting the requirements on the Use of Highly Enriched Uranium, and

- Thermal Annealing Reports.

These regulations affect 89 licensees for operating nuclear power plants, 31 non-power production and utilization facilities, 15 combined operating license holders/applicants and 29 power plants that are currently being decommissioned. Licensees may voluntarily submit a request for an exemption to the Commission and maintain a record of that request.

This section incorporates the following two rules, which have been approved by OMB since the last renewal of this information collection:

- Approval of American Society of Mechanical Engineers Code Cases, approved March 2020.
- Incorporation by Reference of American Society of Mechanical Engineers Codes and Code Cases, approved May 2020.

A. JUSTIFICATION

1. Need for the Collection of Information

The information is needed in order to determine licensee compliance with the regulations set forth in 50.54(hh)(1); 50.55(e); 50.55(f); Appendices A & B,; 50.55a; 50.59(c) and (d); Appendices G & H; 50.60; 50.61; 50.62; 50.63; 50.64; 50.65; and 50.66. Details of these regulations can be found at the end of this supporting statement in “Description of Requirements.”

2. Agency Use of Information

Applicants or licensees requesting approval to construct or operate utilization or production facilities are required by the Atomic Energy Act of 1954, as amended (the Act), to provide information and data that the NRC may determine necessary to ensure the health and safety of the public.

The NRC uses the records and reports required in this part to ascertain that licensees’ licensing the design, construction, operation, and decommissioning of commercial nuclear power plants and other nuclear facilities programs are adequate to protect public health and minimize danger to life and property and that licensees’ personnel are aware of and follow up on the information and steps needed to perform licensed activities in a safe manner. The reports and recordkeeping requirements allow NRC to determine whether to take actions, such as to conduct inspections or to alert other licensees to prevent similar events that may have generic implications.

3. Reduction of Burden Through Information Technology

The NRC has issued *Guidance for Electronic Submissions to the NRC* which provides direction for the electronic transmission and submittal of documents to the NRC. Electronic transmission and submittal of documents can be accomplished via the following avenues: the Electronic Information Exchange (EIE) process, which is available from the NRC's “Electronic Submittals” Web page, by Optical Storage Media (OSM) (e.g. CD-ROM, DVD), by facsimile or by e-mail. It is estimated that approximately 60%of the 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.

5. Effort to Reduce Small Business Burden

Not Applicable.

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

If the information is not collected, NRC will not be able to assess whether licensees are operating within the specific safety requirements applicable to the licensing and operating activities for existing nuclear power reactors and research and test reactors.

The information and required frequency from licensees that seek to licensee and operator nuclear power reactors and research and test reactors is essential to NRC's determination of whether the applicant has adequate equipment, training, funds and experience throughout the life of the licensee to protect the public health and safety.

7. Circumstances which Justify Variation From OMB Guidelines

50.54(cc) varies from the Office of Management and Budget guidelines by requiring that licensees submit the notification in less than 30 days from the date of filing of the petition in bankruptcy. The requirement to provide notification promptly following the filing of the petition is a reasonable measure to ensure that NRC is made aware of the bankruptcy so as to take effective action to protect public health and safety. Allowing a period of 30 or more days to elapse might preclude NRC from becoming aware of the licensee's distressed financial circumstances in time to prevent the development or aggravation of a potential hazard to the public. Moreover, the United States Code contains requirements regarding notification of creditors of bankruptcy. This regulation requires one additional notification. Notifying NRC promptly after the filing of the petition would in fact be less of a burden on the bankrupt licensee than a separate notification later in the proceedings since these notifications are accomplished by forwarding to NRC a copy of the petition.

Records in 50.55(e) are required to be retained longer than the OMB established 3-year retention period because operating experience has demonstrated that a minimum of a 10-year retention period is necessary in order to evaluate the adequacy of the evaluation and correction of recurring defects. Procurement documents are retained for the lifetime of the components, a standard industry practice. Review of documented component characteristics and performance history must be available for review as needed.

The two-day initial notification required by 10 CFR 50.55(e)(6)(i) provides the NRC with advance notice of potentially generic defects, substantial safety hazards, or significant breakdowns in QA programs, which could affect operating facilities.

50.71(c) states that if a retention period is not otherwise specified, these records must be retained until the Commission terminates the facility license or, in the case of an early site permit, until the permit expires. Records related to design, fabrication, erection and testing of structures, systems and components important to safety must be retained for the life of the plant in order to support the review and confirmation of safety-related activities.

ASME BPV Code, Section XI, and ASME OM Code requirements for ISI and IST programs, and 10 CFR 50.55a specify that records and reports must be maintained for the service lifetime of the component or system. Such lifetime retention of the records is necessary to ensure adequate historical information of the design, examination, and testing of components and systems to provide a basis for evaluating degradation of these components and systems at any time during their service lifetime.

The information reported pursuant to 10 CFR 50.59 is required to be submitted every two years but may be submitted annually or along with the FSAR updates, and, therefore, does not vary from OMB guidelines. The record retention periods specified in 10 CFR 50.59 (5 years, and until termination of the license) are required because these records provide the NRC with vital information about reactor facility changes, tests, and experiments made without prior Commission approval. Without these records, NRC's ability to protect the health and safety of the public would be reduced.

The provisions of 10 CFR 50.60, 10 CFR 50 Appendix G, and 10 CFR 50 Appendix H require that this information be maintained for the life of the plant in order to detect material deteriorations or flaws which might affect the health and safety of the public.

8. Consultations Outside the NRC

Opportunity for public comment on the information collection requirements for this clearance package was published in the Federal Register on February 19, 2021, (86 FR 10360). Additionally, NRC staff contacted five stakeholders via email. The stakeholders were new, operating and research and test reactor owner licensee representatives and interested stakeholders from Duke Energy Progress, LLC, Kairos Power, Southern Nuclear Operating Co., Washington State University and X-Energy.

The NRC received one out-of-scope comment as a result of the FRN. No additional responses or comments were received as a result of the FRN or the staff’s direct solicitation of comment.

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 request sensitive information.

12. Estimated Industry Burden and Burden Hour Cost

The total estimated cost for information collection requirements in this section is estimated to be 1,999,531 hours at a cost of $ $557,869,149(1,999,531 hours x $279/hr).

	Hours	Responses
Reporting	231,328	1,128
Recordkeeping	1,768,003	118
Third Party Disclosure	200	2
TOTAL	**1,999,531**	**1,248**

Detailed burden estimates are included in the supplemental burden spreadsheet titled, “Table 1 - Summary of Supporting Statements.” The $279 hourly rate used in the burden estimates is based on the Nuclear Regulatory Commission’s fee for hourly rates as noted in 10 CFR 170.20 “Average cost per professional staff-hour.” For more information on the basis of this rate, see the Revision of Fee Schedules; Fee Recovery for Fiscal Year 2019 (85 FR 37250, June 19, 2020).

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 $197,309 (1,768,003 recordkeeping hours x $279 x .0004).

14. Estimated Annualized Cost to the Federal Government

The staff has developed estimates of annualized costs to the Federal Government related to the conduct of this collection of information. These estimates are based on staff experience and subject matter expertise and include the burden needed to review, analyze, and process the collected information and any relevant operational expenses.

The annualized cost to the government is estimated to be $20,399,085 (73,115 staff hours x $279/hr) as shown on the attached Summary Table.

15. Reasons for Changes in Burden or Cost

The burden and number of responses have changed as described in the tables below:

Burden change

	2018 estimates	Current submission	Change
Reporting	315,176	231,328	-83,848
Recordkeeping	1,884,046	1,770,363	-113,683
Third Party Disclosure	100	200	100
Total	2,199,322	2,001,891	-197,431

Change in Responses

	2018 estimates	Current submission	Change
Reporting	1,107	1,128	+21
Recordkeeping	153	118	-35
Third Party Disclosure	1	2	1
Total	1,261	1,248	-13

The estimated annual burden for this section will decrease by 197,431 hours from 2,199,322 hours to 2,001,891 hours.

The primary reasons for the overall decrease in this section are:

- Staff review of records associated with 50.59. Section 50.59(c) allows licensees to make certain changes in the facility without a license amendment, however they must keep a record of their evaluations and submit a report of changes every 24 months. The previous recordkeeping burden of 1520 hours/year was based on 95 evaluations/year times 16 hours/evaluation. The 50.59 guidance allows most items changes to be screened out, and staff believed that licensees were conducting fewer evaluations than previously estimated. Because a report of these changes is submitted every 24 months, the number of evaluations conducted by licensees as part of the recordkeeping burden is known. A staff review of evaluations submitted by 25 different plants had a total of 78 evaluations, which averages 3.1 evaluations/plant/year. For this renewal, the staff has estimated at 5 evaluations per plant per year rather than 95 per plant per year, based on these data. The estimated burden per plant for this requirement has been adjusted from 1520 hours/year (for 95 evaluations x 16 hours) to 100 hours per plant per year (5 evaluations/year X 16 hours/evaluation = 80 hours/year plus 20 hours/year baseline effort to prepare the correspondence for a total of 100 hours/year). This change resulted in a reduction of 168,360 hours (from 179,360 to 11,000 hours).

- Reduction in the number of operating reactors in this cycle from 94 to 89; due to their non-operational status will no longer be required to report under these requirements. This decreases burden across a number of requirements. One notable decrease due to the change in the number of respondents was for 50.65 (recordkeeping burden for maintenance programs for operating reactors), which decreased by 21,575 hours due to the decrease of 5 operating reactors (4,315 hours per reactor x 5 reactors = 21, 575);

- The adjusted estimated time to prepare requests for alternatives under 10 CFR 50.55a(z), the requirements under 50.55a(f)(5) and (g)(5). The estimated time to prepare a request under these requirements was adjusted from 380 hours per request to 230 hours per request (a decrease of 150 hours). This adjustment is based on staff experience.
    - The reduction in estimated burden of 150 hours per relief request, in addition to the reduction in the number of operating reactors, and a reduction in the number of anticipated responses (from 4 responses per reactor to 2

responses per reactor based on staff continued interaction with industry) resulted in a burden reduction of 101,940 hours associated with 50.55a(f)(5) and (g)(5).

- The reduction in burden of 150 hours per alternative request for 50.55a(z), in addition to the reduction in the number of operating power reactors from 94 to 89, resulted in a burden reduction of 45,750 hours associated with 50.55a(z) requests that were submitted using traditional methods, this decrease is offset by the increase of 50,140 hours in the burden associated with the online portal submissions for 50.55a(z) as stated below.
- In 2020, the NRC developed and received approval for an online portal to submit relief requests under 50.55(z), clearance number 3150-0245. The clearance for the online portal includes burden to use the online system, but the burden for preparation of the request continues to be reflected in this Part 50 clearance, partly due to the COVID-19 pandemic, the number of anticipated requests submitted using the online portal is 218 annually for 50,140 hours. The burden associated with online relief request submissions offsets the decrease in the number of traditionally submitted requests for 50.55(z)

There is an overall reduction in recordkeepers down from 153 in the previous cycle to 118 in this cycle due to staff adjustments of the number of recordkeepers to reflect current information on licensees responding to this collection.

16. Publication for Statistical Use

The information being collected is not expected to be published for statistical use.

17. Reason for Not Displaying the Expiration Date

The recordkeeping and reporting requirements for this information collection are associated with regulations and are not submitted on instruments such as forms or surveys. For this reason, there are no data instruments on which to display an OMB expiration date. Further, amending the regulatory text of the CFR 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.

Appendix A – Description Requirements

Issuance, Limitations, and Conditions of Licenses and Construction Permits

Section 50.54(cc) requires licensees to notify the appropriate NRC regional office immediately in writing in the event of the commencement of a bankruptcy proceeding involving the licensee, indicating the bankruptcy court in which the petition was filed and the date of the filing. There is no action required of a licensee unless and until a bankruptcy petition is filed.

Section 50.54(hh)(1) requires licensees to develop, implement, and maintain procedures to address preparatory actions to be taken in the event of a potential aircraft threat to a nuclear power reactor facility.

Section 50.54(hh)(2) requires licensees to develop and implement guidance and strategies to address the loss of large areas of the plant due to explosions or fires from a beyond-design basis threat. These one-time requirements have been completed.

10 CFR 50.55(e) establishes requirements for reporting deficiencies occurring during the design and construction of nuclear power plants. The regulation is designed to enable the NRC to receive prompt notification of deficiencies and to have timely information on which to base an evaluation of the potential safety consequences of the deficiency and determine whether regulatory action is required. Therefore, the holder of a permit for the construction of a nuclear power plant is required to notify the Commission of each significant deficiency found in design and construction, which if it were to remain uncorrected, could adversely affect the safety of operations of the nuclear power plant at any time throughout the expected lifetime of the plant.

10 CFR 50.55(e)(1)(i) requires each CP holder to adopt appropriate procedures to evaluate deviations and failures to comply to identify defects and failures to comply associated with substantial safety hazards as soon as practicable, and, except as provided in 10 CFR 50.55(e)(1)(ii), in all cases within 60 days of discovery, in order to identify a reportable defect or failure to comply that could create a substantial safety hazard.

10 CFR 50.55(e)(1)(ii) requires that if the evaluation required by 50.55(e)(1)(i) cannot be completed within 60 days of discovery, an interim report is prepared and submitted to the Commission. The interim report should describe the deviation or failure to comply that is being evaluated and should also state when the evaluation will be completed. The interim report must be submitted in writing within 60 days of discovery of the deviation or failure to comply.

10 CFR 50.55(e)(1)(iii) requires that a director or responsible officer of a CP holder is informed within 5 working days after completion of the evaluation described above, if the construction of a facility or activity, or a basic component supplied for such facility or activity fails to comply with the Atomic Energy Act of 1954, as amended (the Act), or any applicable rule, regulation, order, or license of the Commission relating to a substantial safety hazard; contains a defect; or undergoes any significant breakdown in any portion of the quality assurance program required by 10 CFR 50 Appendix B that could have produced a defect in a basic component. Such breakdowns in the QA program are reportable whether or not the breakdown actually resulted in a defect in a design approved and released for construction or installation.

10 CFR 50.55(e)(2) requires a CP holder to notify the Commission, through a director or responsible officer or designated person, of information reasonably indicating that the facility fails to comply with the Act or any applicable rule, regulation, order, or license of the Commission relating to a substantial safety hazard.

10 CFR 50.55(e)(3) requires a CP holder to notify the Commission, through a director or responsible officer or designated person, of information reasonably indicating the existence of any construction defect or any defect found in the final design of a facility as approved and released for construction.

10 CFR 50.55(e)(4) requires a CP holder to notify the Commission, through a director or responsible officer or designated person, of information reasonably indicating any significant breakdown in the QA program.

10 CFR 50.55(e)(6)(i) requires notifications, as required by paragraphs (e)(2), (3) and (4) above, to be made initially by facsimile or by telephone within 2 days following receipt of information by the director or responsible corporate officer. This does not apply to interim reports described in 10 CFR 50.55(e)(1)(ii). Verification that the facsimile has been received should be made by telephone.

10 CFR 50.55(e)(6)(ii) requires notifications, as specified above, to also be made in writing, with copies to the appropriate Regional Administrator and to the appropriate NRC resident inspector, within 30 days following receipt of information by the director or responsible corporate officer.

10 CFR 50.55(e)(8) requires that the notification, required by 10 CFR 50.55(e)(6)(ii), clearly indicate that it is being submitted under 10 CFR 50.55(e) and includes, to the extent known, the name and address of the individual(s) informing the Commission; identification of the facility, the activity or the basic component supplied for the facility or the activity within the U.S. which contains a defect or fails to comply; identification of the firm constructing the facility or supplying the basic component which fails to comply or contains a defect; nature of the defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply; the date on which the information of such defect or failure to comply was obtained; in the case of a basic component which contains a defect or fails to comply, the number and location of all the components in use at the facility; the corrective action which has been, is being, or will be taken, the name of the individual or organization responsible for the action, and the length of time that has been or will be taken to complete the action; and any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to other entities.

10 CFR 50.55(e)(9)(i) requires a CP holder to retain procurement documents (records) defining the requirements that facilities or basic components must meet for the lifetime of the basic component.

10 CFR 50.55(e)(9)(ii) requires a CP holder to retain records of evaluations of deviations and failures to comply for 5 years from the date of the evaluation.

10 CFR 50.55(e)(10) specifies that the reporting requirements of 10 CFR 50.55(e) are satisfied when the defect or failure to comply associated with a substantial safety hazard has been previously reported under 10 CFR 21, 10 CFR 50.55(e), 10 CFR 50.71 or 10 CFR 73.73. For holders of construction permits issued prior to October 29, 1991, evaluation, reporting, and recordkeeping requirements of 10 CFR 50.55(e) may be met by complying with the comparable requirements of 10 CFR 21. The burden is included in 10 CFR 21 (3150-0035) or NRC Form 366 (3150-0104).

Licensees of nuclear power plants are required to update their inservice inspection (ISI) and inservice testing (IST) programs every 10 years in accordance with the requirements of the latest edition and addenda of the ASME Code that have been incorporated by reference into 10 CFR 50.55a as of 12 months prior to the start of the next inspection and testing intervals.

Approval of American Society of Mechanical Engineers Code Cases, approved March 2020 and Incorporation by Reference of American Society of Mechanical Engineers Codes and Code Cases, approved May 2020, extended the time schedule to satisfy the latest edition and addenda of the ASME OM Code from the current 12 months to 18 months for the initial and subsequent 120-month IST intervals; allowing licensees 6 additional months to prepare for the initial 120-month IST interval in order to meet the latest edition and addenda of the ASME OM Code will result in some savings and efficiencies, from personnel availability to avoiding scheduling conflicts.

Voluntary use of later codes

Paragraphs 10 CFR 50.55a(f)(4)(iv) and (g)(4)(iv) require that inservice tests of pumps and valves, inservice examinations of components, and system pressure tests may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in 10 CFR 50.55a subject to the limitations and modifications listed in 10 CFR 50.55a(b) and subject to Commission approval.

Licensees may use the later editions and addenda if the code of record at their plant is the earlier editions and addenda of the ASME Code. However, licensees are required to request Commission approval via a letter to use these subsequent editions and addenda as discussed in NRC Regulatory Issue Summaries 2004-12 and 2004-16. As discussed in NRC Regulatory Issue Summary 2004-12, the amount of written documentation needed for a request to use a later Code edition and addenda that has been incorporated by reference into 10 CFR 50.55a is significantly less than for a relief request or a request to use an alternative requirement, so the information collection burden associated with a request to use a subsequent edition and addenda is less than the burden associated with an alternative request under 10 CFR 50.55a(z) or a relief request under 10 CFR 50.55a(f)(5)(iii) or (g)(5)(iii).

Alternative requests

Paragraph (z) of 10 CFR 50.55a allows applicants to use alternatives to the requirements of 10 CFR 50.55a paragraphs (b), (c), (d), (e), (f), (g), and (h) when authorized by the NRC. The NRC anticipates that there will be a reduction in the number of alternative requests under 10 CFR 50.55a(z) as a result of this final rule.

10 CFR 50.55a incorporates by reference Division 1 rules of Section III, "Rules for Construction of Nuclear Power Plant Components," and Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (BPV Code); and the rules of the ASME “Code for Operation and Maintenance of Nuclear Power Plants” (OM Code). These rules of the ASME BPV and OM Codes set forth the requirements to which nuclear power plant components are designed, constructed, tested, repaired, and inspected. The ASME Codes contain information collection requirements that impose a recordkeeping and reporting burden for the plant owners. In general, the records prepared are not collected by the NRC, but are retained by the licensee to be made available to the NRC, if requested, at the time of an NRC audit.

Section III Recordkeeping Requirements

Section III, Subsection NCA specifies recordkeeping requirements for Class 1 (Subsection NB), Class 2 (Subsection NC), and Class 3 (Subsection ND) components. These provisions require the Owner to:

- NCA-3230: Owner's Certificate; AIA Agreement. Prepare and submit to the ASME necessary forms to obtain an Owner's Certificate of Authorization, and to obtain a written agreement with an Authorized Inspection Agency (AIA), prior to application, to provide inspection and auditing services (NCA-3230). This activity by the Owner occurs after receipt of notification from the NRC that an application for a Construction Permit or Combined Operating License has been docketed. The information to be supplied by the Owner when making an application is identified in the forms issued by the ASME. (Because this is submitted to the ASME, it is considered a 3rd Party Disclosure requirement and appears on the 3rd Party Table.)

- NCA-3280: Owner's Data Report. Prepare and file ASME Form N-3, "Owner's Data Report for Nuclear Power Plant Components" (NCA-3280). Information to be included on this form identifies the Owner and location of the plant, and the nuclear vessels, piping, and pumps and valves installed within the plant. Information required to identify each component includes certificate holder and serial number, system identification, state number, national board number, and year built (NCA-3280). Form N-3, which is provided by the ASME, expedites the documentation of this information. (one-time recordkeeping)

- NCA-3260: Design Report. Document that a review of the Design Report has been performed to verify that all Design and Service Loadings have been evaluated and meet the acceptance criteria (NCA-3260). (one-time recordkeeping)

- NB/NC/ND-3220: Overpressure Protection Report. Provide and file the Overpressure Protection Report required for the nuclear protection system (NCA-3220 (m) and (n)). This report includes the overpressure protection requirements for each component or system, including location of the overpressure protection devices, identification of the edition and addenda, system drawings, range of operating conditions, and an analysis of the conditions that give rise to the maximum pressure relieving requirements (NB/NC/ND-7200). (one-time recordkeeping)

- Quality Assurance Program. Document a Quality Assurance Program, and file copies of the Quality Assurance Manual with the Authorized Inspection Agency (NCA-8140). This documentation includes programs for surveying, qualifying, and auditing suppliers of subcontracted services (e.g., nondestructive examination contractors, material suppliers, and material manufacturers). Although Section III identifies the need for a documented Quality Assurance (QA) program, the primary NRC requirement for an overall QA program is contained in 10 CFR 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants." Therefore, no additional information collection burden is imposed on Owners by the quality assurance provisions of Section III which are incorporated by reference into Section 50.55a.

- Design Specifications. Provide, correlate, and certify Design Specifications (NCA-3250). This requires that the component Design Specification be provided in sufficient detail to form the basis for fabrication in accordance with the rules of Section III. The Design Specifications shall be certified to be correct and complete and to be in compliance with the requirements of NCA-3250 by one or more competent Registered Professional Engineers (NCA-3255). Although this is a requirement of Section III, its incorporation by reference in Section 50.55a does not impose an additional information collection burden on the Owner. Preparation and certification of design specifications for construction of engineered structures is a routine and necessary engineering practice, which occurs with or without the incorporation of this Section III provision into Section 50.55a.

- Record retention periods (no burden). Designate records to be maintained and provide for their maintenance (NCA-3290). Although Section III identifies the need for specific record retention, the primary NRC requirement for record retention is specified in 10 CFR 50, Appendix B, Criterion XVI (Quality Assurance Records). Therefore, no additional information collection burden is imposed on Owners by the record retention provisions of Section III which are incorporated by reference into Section 50.55a.

Section XI

Section XI, Subsection IWA specifies recordkeeping requirements for ISI of Class 1 (Subsection IWB), Class 2 (Subsection IWC), Class 3 (Subsection IWD), Class MC (Subsection IWE), and Class CC (Subsection IWL) components. These recordkeeping requirements require the Owner to:

- Records of Exams: NIS-1 Forms. Prepare records of the preservice and inservice examinations of Class 1 and Class 2 pressure retaining components and their supports on ASME Form NIS-1, "Owner's Report for Inservice Inspections." Information to be included on Form NIS-1, which expedites documentation of the required information, includes identification of the component (i.e., name of component, name of manufacturer, manufacturer serial number, state number, national board number), examination dates, the applicable Section XI edition and addenda, and abstracts of the examination and tests, including results, and any corrective measures (IWA-6230).

Section XI examinations are performed on the basis of a 10-year interval (i.e., all components to be examined, are examined within 10 years), with examinations distributed over three 40-month periods.

- Records of Repairs: NIS-2 Forms. Document the repairs and replacements in the inservice inspection summary reports on existing Form NIS-2, "Owner's Report for Repair or Replacements." Information to be included on ASME Form NIS-2 includes identification of the component (i.e., name of component, name of manufacturer, manufacturer serial number, national board number, year built) and system, the applicable construction code and Section XI edition and addenda, repair organization, and a description of the work performed (IWA-6350).

- ISI and IST Plans and Schedules. Prepare plans and schedules for preservice and inservice examination and tests (IWA-6210).

- Records of Component Examination/Tests. Record the results of preservice and inservice examinations of components performed in accordance with Section XI, IWB/IWC/IWD/IWF-2000. Specific requirements for examinations are tabulated in IWB/IWC/IWD/IWF-2500-1 for components such as vessels, piping and their supports. A record of each examination includes the component identification, date of examination, specific Section XI requirement, type of examination (e.g., volumetric, surface, visual), equipment settings, and record of any indications. The examinations are distributed over a 10-year examination interval (three 40-month periods) with examinations being performed at, on average, 18-month refueling outages.

- Develop Containment ISI plan. The 1996 incorporation by reference of Subsections IWE and IWL into 10 CFR 50.55a requires licensees to develop an inservice inspection (ISI) plan for these subsections, implement that ISI plan, and then develop and implement 10-year updates to that ISI plan. (one-time recordkeeping)

- Implement Containment ISI Plan. The 1996 incorporation by reference of Subsections IWE and IWL into 10 CFR 50.55a requires each plant performing ISI of the containment maintain their records for implementing the Containment ISI plan.

The following additional significant recordkeeping requirements result from implementation of specific Section XI technical requirements:

- Reactor Vessel Exam. The 1995 Edition up to and including the 2017 Edition of Section XI requires examination of essentially 100% of the length of all reactor vessel shell welds during the 2nd, 3rd, and 4th inspection intervals. (Section XI has required examination of essentially 100% of the length of reactor vessel shell welds during the 1st interval since the 1974 Edition as modified by addenda through the 1975 Addenda.)

- Qualification of NDE personnel. Section XI, Mandatory Appendix VII, "Qualification of Nondestructive Examination Personnel for Ultrasonic Examination," specifies requirements for the training and qualification of ultrasonic nondestructive examination (NDE) personnel in preparation for employer certification to perform NDE. Appendix VII specifies requirements for qualification records. These records include those for recertification (e.g., name of individual, qualification level, educational background and experience, statement indicating satisfactory completion of prior training, record of annual supplemental training, results of vision examinations, and current qualification examination results).

- ASME QAI-1 Specification. Table IWA-1600-1 references a revised ASME QAI-1 specification which requires that Authorized Inspection Agencies be accredited by ASME.

- Visual examinations. IWA-2210 describes visual examination requirements and requires calibration records for light meters and test charts.

- Repair plans. IWA-4150 requires repair/replacement activity details to be documented in repair/replacement plans.

- PWR Steam Generator Sleeving. IWB-4720 requires records for each pressurized water reactor (PWR) plant in conjunction with each series of steam generator sleeving operations during any refueling outage. The records include the Sleeving Procedure Specification, procedure qualification, performance qualification for personnel, location records, and examination records.

- Qualification records. Appendix VIII, Article VIII-5000 requires that qualification records be kept. The records are generated when the qualification activities are performed (one-time recordkeeping).

- Welding/Brazing Qualification Records. ASME Code Section XI allows an alternate welding procedure qualification process which allows transfer of procedure qualification records between owners, which provides a less burdensome recordkeeping alternative for qualification records of welding and brazing procedures related to repair and replacement activities.

OM Code

- Records of Pump Tests. Record the results of the preservice and inservice pump tests in accordance with OM Code Subsection ISTB, which provides rules for the preservice and inservice testing of pumps to assess the operational readiness of certain centrifugal and positive displacement pumps. The inservice tests, like the inservice examinations, are established for a 10-year interval, but the testing is performed on a quarterly basis. A record of each test includes the pump identification, date of test or examination, reason for test or examination, test or examination procedure used, values of measured parameters, identification of test equipment used, calibration records, comparisons with allowable ranges of test and examination values and analysis of deviations, and requirements for corrective action.

- Records of Valve Tests. Record the results of the preservice and inservice valve tests in accordance with OM Code Subsection ISTC, Mandatory Appendix III, and Mandatory Appendix IV, which provide rules for the preservice and inservice testing of valves to assess the operational readiness of certain valves and pressure relief devices. The inservice tests, like the inservice examinations, are established for a ten-year interval, but the testing is performed on a frequency, depending on the valve, from quarterly to every ten years. The types of records to be retained for valve testing are similar to those identified above for pump testing.

- Pump Pressure Instruments. Table ISTB-3510-1 requires more accurate pressure instruments for the comprehensive and preservice pump tests. Records are required for the procurement and periodic calibration of these instruments.

10 CFR 50.55a

- Requests for alternatives. 10 CFR 50.55a(z) allows applicants to use alternatives to the requirements of 10 CFR 50.55a paragraphs (c), (d), (e), (f), (g), and (h) when authorized by the NRC.

- Relief requests. 10 CFR 50.55a(f)(5) and 10 CFR 50.55a(g)(5) allow applicants to obtain relief from conformance with ISI and IST code requirements when granted by the NRC.

10 CFR 50.55(f) addresses quality assurance program requirements for holders of construction permits.

10 CFR 50 Appendix A, General Design Criteria for Nuclear Plants, Criteria 1, requires maintenance of records of the design, fabrication, erection, and testing of structures, systems, and components important to safety throughout the life of the unit.

10 CFR 50 Appendix B. Each nuclear power plant subject to the criteria in 10 CFR 50 Appendix B shall implement the quality assurance program described or referenced in the Safety Analysis Report for the facility. 10 CFR 50 Appendix B requires that sufficient records be maintained to furnish evidence of activities affecting quality. Appropriate records of the design, fabrication, erection and testing of structures, systems and components important to safety shall be maintained by the licensee throughout the life of the plant, including:

1. Management: QA plan, procedures, and instructions
2. Qualification and training of personnel
3. Design
4. Procurement, items identification/control, acceptance status
5. Special processes
6. Manufacture, installation/testing
7. Calibration
8. Handling, storage and shipping
9. Inspection, test, and operating status
10. Non-conformance, corrective action
11. Audits
12. Modification, maintenance, and repair
13. Operation
14. QA plans in support of Part 52 applications

10 CFR 50.59(c) allows a holder of a license authorizing operation of a production or utilization facility or for a facility that has ceased operation to (i) make changes in the facility as described in the Final Safety Analysis Report (FSAR), (ii) make changes in procedures as described in the Final Safety Analysis Report, and (iii) conduct tests or experiments not described in the Final Safety Analysis Report, without prior Commission approval, unless the proposed change, test or experiment involves a change to the technical specifications incorporated in the license or meets one or more specified criteria, which would more than minimally decrease safety, in which case prior Commission approval is required prior to making the change.

10 CFR 50.59(d) requires the facility licensee to maintain records of changes in the facility, of changes in procedures, and of tests and experiments and to submit a report containing a brief description of any changes, tests, and experiments, including a summary of the evaluation of each. The report must be submitted at intervals not to exceed 24 months. This report generally consists of a few pages. The records of changes in the facility must be maintained until the termination of the license is issued. Records of changes in procedures and records of tests and experiments must be maintained for a period of 5 years.

10 CFR 50.60, "Acceptance criteria for fracture prevention measures for light water nuclear power reactors for normal operation" provisions are as follows: (a) except as provided in 10 CFR 50.60(b), all light water nuclear power reactors, other than reactor facilities for which 10 CFR 50.82(a)(1) certifications have been submitted, must meet the fracture toughness and material surveillance program requirements for the reactor coolant pressure boundary set forth in 10 CFR 50 Appendix G and 10 CFR 50 Appendix H; and (b) proposed alternatives to the described requirements in 10 CFR 50 Appendix G and 10 CFR 50 Appendix H may be used when an exemption is granted by the Commission under 10 CFR 50.12.

10 CFR 50 Appendix G specifies minimum fracture toughness requirements for ferritic materials of pressure-retaining components of the reactor coolant pressure boundary of light water nuclear power reactors. The Section I Note requires the adequacy of the fracture toughness of other

ferritic materials not covered in Section I to be demonstrated on an individual basis. Section III.A requires supplemental information for a reactor vessel constructed to an American Society of Mechanical Engineers (ASME) Code earlier than the Summer 1972 Addenda of the 1971 Edition to demonstrate equivalence with the fracture toughness requirements of 10 CFR 50 Appendix G. Section III.B requires the submission and approval prior to testing of test methods for supplemental fracture toughness described in Section IV.A.1.b. Section III.C requires that records of the fracture toughness test program be retained until termination of the license to comply with ASME Code requirements. Section IV.A.1 requires licensees to maintain upper-shelf energy throughout the life of the reactor vessel of no less than 50 ft-lbs unless it is demonstrated that lower values of upper-shelf energy will provide margins of safety against fracture equivalent to those required by Appendix G of the ASME Code, "Fracture Toughness Criteria for Protection Against Failure." The analysis for satisfying this section must be submitted for review and approval on an individual-case basis at least 3 years prior to the date when the predicted Charpy upper-shelf energy will no longer satisfy the requirements of Section IV.A.1, or on a schedule approved by the NRC. Section IV.A.2 requires licensees to provide pressure-temperature limits for the reactor vessel. Both upper-shelf energy and pressure-temperature limits are dependent upon the predicted radiation damage to the reactor vessel.

10 CFR 50 Appendix H requires a material surveillance program for each reactor vessel to monitor changes in the fracture toughness of the reactor vessel beltline materials resulting from their exposure to neutron irradiation and the thermal environment. Under the program, fracture toughness test data are obtained from material specimens exposed in surveillance capsules, which are withdrawn periodically from the reactor vessel. Section III.B.1 requires test procedures and reporting requirements that meet the requirements of American Society for Testing and Materials (ASTM) E 185-82, "Standard Practice for Conducting Surveillance Tests for Light-Water Cooled Nuclear Power Reactor Vessels," to the extent practical for the configuration of the specimens in the capsule. Section III.B.3 requires a proposed withdrawal schedule and technical justification to be submitted to and approved by the NRC. Section III.C.1 requires integrated surveillance programs for reactors with similar design and operating features to be submitted to NRC for approval. Criteria for approval include, among other items, an adequate dosimetry program, a contingency plan to assure that the surveillance program for each reactor will not be jeopardized by operation at reduced power level or by an extended outage of another reactor from which data are expected. Section III.C.3 requires that any reduction in the amount of testing must be authorized by NRC. Section IV requires: A.) a summary technical report, submitted to NRC, of test results obtained from each capsule withdrawal, within one year of the date of capsule withdrawal, unless an extension is granted by NRC; B.) that the report include the data specified in Section III.B.1 of 10 CFR 50 Appendix H and the results of all fracture toughness tests conducted on the beltline materials in the irradiated and unirradiated conditions; and C.) if a change in the Technical Specifications (TS) is required, either in the pressure-temperature limits or in the operating procedures required to meet the limits, the expected date for submittal of the revised TS must be provided with the report.

10 CFR 50.61(b)(1) requires each PWR licensee, other than a licensee for a PWR for which 10 CFR 50.82(a)(1) certifications have been submitted, to have projected values of RT_{PTS}, accepted by the NRC, for each reactor vessel beltline material for the expiration date of the operating license (EOL) fluence of the material. The assessment must use the calculation procedures given in 10 CFR 50.61 and must specify the bases for the projected value, including the assumptions regarding core loading patterns, and must specify the copper and nickel contents and the fluence value used in the calculation for each beltline material. This assessment must be updated whenever there is a significant change in projected values of RT_{PTS}, or upon a request for a change in the expiration date for operation of the facility. For PWRs with a construction permit issued before February 3, 2010, projected values of RT_{MAX-X} per 10 CFR 50.61a, "Alternative

Fracture Toughness Requirements for Protection Against Pressurized Thermal Shock Events," could be used as an alternative.

10 CFR 50.61(b)(3) provides for submittal and anticipated approval by the NRC of detailed plant-specific analyses, submitted to demonstrate acceptable risk with RT_{PTS} above the screening limit due to plant modifications, new information, or new analysis techniques.

10 CFR 50.61(b)(4) requires licensees for PWRs for which the analysis required by 10 CFR 50.61(b)(3) indicates that no reasonably practical flux reduction program will prevent RT_{PTS} from exceeding the PTS screening criterion to submit a safety analysis to determine what, if any, modifications to equipment, systems, and operation are necessary to prevent potential failure of the reactor vessel as a result of postulated PTS events if continued operation beyond the screening criterion is allowed. This analysis must be submitted at least three years before RT_{PTS} is projected to exceed the PTS screening criterion.

10 CFR 50.61(b)(6) states that if NRC concludes that operation of the facility with PT_{PTS} in excess of the PTS screening criterion cannot be approved on the basis of the licensee's analyses submitted in accordance with 10 CFR 50.61(b)(3) and (4), the licensee shall request and receive approval by NRC prior to any operation beyond the criterion.

10 CFR 50.61(c)(3) requires licensees to report to NRC any information believed to significantly improve the accuracy of the RT_{PTS} values.

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. The burden to provide this information is included in the OMB clearance for 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants" (3150-0151). The information is included in an applicant's Final Safety Analysis Report (FSAR). 10 CFR 52.47, 52.79, 52.137, and 52.157 require that applicants for standard design certifications, combined licenses, standard design approvals, and manufacturing licenses include the information required by this section in their FSAR.

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. This requirement is complete.

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.

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. Information for plants licensed to operate prior to September 27, 2007 is complete. The burden to provide this information is included in the OMB clearance for 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants" (3150-0151). The information is included in an applicant's Final Safety Analysis Report (FSAR).

10 CFR 50.63(c)(1) requires light-water-cooled nuclear power plant licensed to operate after July 21, 1988, but before September 27, 2007 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.

Section 50.64(b)(1) limits the use of highly enriched uranium (HEU) fuel in non-power reactors. This regulation requires that new non-power 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 non-power 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.

Section 50.65 contains requirements pertaining to the monitoring of the effectiveness of maintenance at nuclear power plants. 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.

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 which requires a license amendment, 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 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, the projected post-annealing reembrittlement trends for both RT_{NDT} and Charpy upper-shelf energy, and their projected values at the end of the proposed period of operation addressed in the Thermal Annealing Report.

Regulatory Guide (RG) 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 C2.1 of RG 1.162 directs the licensee to retain reactor annealing measurement records until the facility license is terminated.

GUIDANCE DOCUMENTS FOR INFORMATION COLLECTION REQUIREMENTS
CONTAINED IN
10 CFR PART 50
ISSUANCE, LIMITATIONS, AND CONDITIONS OF LICENSES AND CONSTRUCTION PERMITS
SECTION 5
(10 CFR 50.30 – 50.39)

3150-0011

Title	Accession number
Regulatory Guide 1.160, Rev. 4, “Monitoring the Effectiveness of Maintenance at Nuclear Power Plants” (endorses industry guidance document, Nuclear Utility Management and Resources Committee (NUMARC) 93-01, Rev. 4F, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants.")	ML18220B281
Regulatory Guide 1.162, “Format and Content of Report for Thermal Annealing of Reactor Pressure Vessels”	ML003740052
Regulatory Guide 1.178, Rev. 1, “An Approach for Plant-Specific Risk-Informed Decisionmaking for Inservice Inspection of Piping”	ML032510128
Regulatory Guide 1.174, “An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis”	ML100910006
Regulatory Guide 1.175, Rev. 0, “An Approach for Plant-Specific, Risk-Informed Decisionmaking: Inservice Testing”	ML003740149
Regulatory Guide 1.200, “An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities”	ML090410014