SUPPORTING STATEMENT

FOR

INFORMATION COLLECTIONS CONTAINED IN

THE EMERGENCY PREPAREDNESS FOR SMALL MODULAR REACTORS

AND OTHER NEW TECHNOLOGIES

FINAL RULE

10 CFR PART 50

DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

(3150-0011)

REVISION

Abstract

The U.S. Nuclear Regulatory Commission (NRC) is amending its regulations to create an alternative, performance-based emergency preparedness (EP) framework in Title 10 of the *Code of Federal Regulations* (10 CFR) relating to EP for small modular reactors (SMRs) and other new technologies (ONTs). For the purposes of this final rule, the term “ONTs” refers to new technologies, such as non-light-water reactors (non-LWRs) and proposed medical radioisotope facilities licensed under 10 CFR Part 50, “Domestic Licensing of Production and Utilization Facilities.” This final rule will also define “non-power production or utilization facility” (NPUF) to clarify the applicability of the performance-based EP framework to such facilities. The definition will include production or utilization facilities, licensed under 10 CFR 50.21(a), 10 CFR 50.21(c), or 10 CFR 50.22, as applicable, that are not nuclear power reactors or production facilities as defined under paragraphs (1) and (2) of the definition of *Production facility* in 10 CFR 50.2. In the context of this final rule, medical radioisotope facilities licensed under 10 CFR Part 50 will also be included within this definition of NPUF. However, those NPUFs that are not considered ONTs (i.e., currently operating non-power reactors) are not within the scope of this rule.

Current EP requirements and guidance in 10 CFR Part 50, initially developed for large light-water reactors (LWR) and non-power reactors, do not address advances in designs and safety research and their applications to existing or future operation of SMRs and ONTs. Furthermore, the current EP regulations are prescriptive, rather than performance-based.

To allow maximum flexibility while continuing to provide adequate protection of public health and safety and the common defense and security, the NRC is making the new EP requirements an alternative to the current requirements. Thus, existing SMR or ONT facilities or future facilities licensed after the effective date of the final rule will use either the new performance-based EP program or the existing deterministic EP requirements in 10 CFR Part 50.

The final rule, which will add a new section at 10 CFR 50.160, will also add conforming changes throughout 10 CFR Part 50 to reference or invoke the usage of the new section. The new EP requirements and implementing guidance will adopt a consequence-oriented, risk-informed, performance-based, and technology-inclusive approach, to the extent possible. The new EP requirements and guidance will adopt a scalable approach for determining the size of the plume exposure pathway emergency planning zone (EPZ) and a requirement to describe ingestion response planning in the emergency plan. The new EP requirements and guidance will: (1) continue to provide reasonable assurance that adequate protective measures can and will be implemented by an SMR or ONT licensee; (2) promote regulatory stability, predictability, and clarity; (3) reduce the need for requests for exemptions from EP requirements; (4) recognize advances in design and technological advancements embedded in design features; (5) credit safety enhancements existing in evolutionary and passive systems; and (6) credit the potential benefits of smaller sized reactors and non-LWRs associated with postulated accidents, including slower transient response times, and relatively small and slow release of fission products. The NRC is also making conforming changes to 10 CFR Part 52 to facilitate the implementation of the rule.

This supporting statement describes how the final rule will impact the information collections in 10 CFR Part 50 (3150-0011). The supporting statement describing changes to 10 CFR Part 52 (3150-0151) has been submitted under the respective clearance.

*Affected Sections Containing Information Collections*

**Table 1**

**10 CFR Sections Affected by the Final Rule**

|  |  |  |
| --- | --- | --- |
| Section Number:  Amended/Added | OMB Clearance Number (by Part) | Applicable Licensee Types |
| **10 CFR Part** **50** | **3150-0011** |  |
| 50.33 |  | SMRs, non-LWRs, NPUFs |
| 50.34 |  | SMRs, non-LWRs, NPUFs |
| 50.47 |  | SMRs, non-LWRs |
| 50.54 |  | SMRs, non-LWRs, NPUFs |
| 50.160\* |  | SMRs, non-LWRs, NPUFs |
| Appendix E |  | SMRs, non-LWRs, NPUFs |
| **10 CFR Part 52** | **3150-0151** |  |
| 52.17 |  | SMRs, non-LWRs |
| 52.79 |  | SMRs, non-LWRs |

*\* new section*

*Affected Entities*

The revisions to 10 CFR Parts 50 and 52 will affect SMR and ONT licensees or license applicants that are regulated by 10 CFR Part 50 or Part 52. This final rule and guidance could affect existing SMR and non-LWR licensees and SMR, non-LWR, and NPUF licensees that will be licensed after the effective date of the final rule. This supporting statement covers those regulated by 10 CFR Part 50 as well as the recordkeeping and license amendment burdens for those regulated by 10 CFR Part 50 and Part 52. As shown in Table 2, the NRC staff estimates four new SMR or ONT applications will be under review, under 10 CFR Part 50, during the 3-year period covered by this supporting statement, or an average of one respondent annually.[[1]](#footnote-3) There are currently no licensed SMRs or non-LWRs, but there is one NPUF construction permit (CP) holder. Although this final rule will be applicable to NPUFs, all of which will be licensed under 10 CFR Part 50, the NRC staff does not expect NPUF submissions under 10 CFR 50.160 during the period of this clearance, for either existing or new NPUFs.

The NRC staff does not expect the 10 CFR Part 50 or 10 CFR Part 52 affected entities identified in Table 2 to begin operation during this 3-year clearance period; therefore, the burden for information collections associated with monitoring and oversight, after the implementation of the emergency plan is not included in the burden estimates in this supporting statement.

**Table 2**

**10 CFR Part 50 Licensed Entities Affected by the Final Rule**

|  |  |  |
| --- | --- | --- |
| **Technology Type** | **Application Type/Part** | **Submittal** |
| Non-LWR | CP – Part 50 | Year 1 |
| SMR | CP – Part 50 | Year 2 |
| Non-LWR | CP – Part 50 | Year 2 |
| Non-LWR | CP – Part 50 | Year 3 |

*Information Collections*

The 10 CFR Part 50 information collection requirements that will be impacted by the final rule are identified below. A more detailed description of the final rule changes is provided at the end of this supporting statement in “Description of Information Collection Requirements.”

* 10 CFR 50.33 – Contents of application – general information
* 10 CFR 50.34 – Contents of application – technical information
* 10 CFR 50.47(b) – Emergency plans
* 10 CFR 50.54 – Conditions of licenses
* 10 CFR 50.90 – License amendments (no change to the requirements of this section, burden impacts only)
* 10 CFR 50.160 – Emergency Preparedness for SMRs, non-LWRs, and NPUFs – alternative performance-based framework
* Appendix E to Part 50 – Emergency Planning and Preparedness for Production and Utilization Facilities

1. JUSTIFICATION
2. Need For the Collection of Information

The information collection requirements in the final rule are part of a voluntary alternative to the existing EP requirements in 10 CFR Part 50. Licensees and applicants will have the alternative to develop a performance-based EP program. The information is needed in order to determine licensees’ and applicants’ compliance with the regulations set forth in 10 CFR 50.160. SMR and ONT licensees and applicants must submit an application with an emergency plan that includes an analysis for the plume exposure pathway EPZ size, the extent to which planning for the plume exposure pathway EPZ actions occur and a description of the ingestion response planning as well as develop and maintain periodic records to demonstrate compliance with the EP performance objectives and associated metrics.

1. Agency Use and Practical Utility 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 (AEA), to provide information and data that the NRC may determine necessary to ensure the adequate protection of health and safety of the public.

The submission of emergency plans to the NRC is required in order to allow the NRC to determine that the emergency plans and EP program provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.

The final rule will provide applicants and licensees the alternative to submit for NRC approval a performance-based EP program to include a scalable plume exposure pathway EPZ size and licensee-defined performance objectives and metrics. If the applicant’s EP program is approved by the NRC, then the final rule will require the licensee to develop and maintain records on its implemented performance objectives and associated performance metrics on a quarterly basis.

The reports and recordkeeping requirements allow the NRC to evaluate the adequacy of the approved EP program and to assess the ongoing adequacy once implemented. The reports and recordkeeping requirements allow the NRC to determine whether to take actions, such as to conduct additional inspections or to alert other licensees to prevent similar events that may have generic implications. The information is also used to update information in the NRC Emergency Operations Center used in support of the NRC’s response to an actual emergency, drill, or exercise.

The final rule will allow licensees to reduce their emergency plan information collection requirements compared to the current framework based on the potential for smaller EPZ sizes, the reduction in reporting, the reduction in recordkeeping, and the expected reduction in license amendments and exemptions.

1. Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them.

The NRC has issued [*Guidance for Electronic Submissions to the NRC*](http://www.nrc.gov/site-help/electronic-sub-ref-mat.html), 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 100 percentof the potential responses will be filed electronically.

1. Effort to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of requirements.

1. Effort to Reduce Small Business Burden

None of the anticipated respondents during the upcoming clearance period meet the NRC’s definition of a small entity as defined in 10 CFR 2.810, “NRC Size Standards.” Further, due to the importance of adequate emergency planning to ensure the common defense and security and the health and safety of the public, regardless of business size, it is not possible to reduce the burden on small businesses by less frequent or less complete reports, records, plans, and procedures.

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

If the information is not collected, the NRC will not be in a position to assess whether licensees are operating within the specific safety requirements applicable to the licensing and operating activities for SMRs and ONTs.

The information and required frequency from licensees that seek to license and operate SMRs and ONTs is essential to the NRC’s determination of whether the licensee or applicant has adequate equipment, training, funds, and experience throughout the life of the license to protect the public health and safety. If the information were not collected, or collected less frequently, the NRC could be unaware for an extended period of time that an existing or revised emergency plan is no longer adequate to protect the health and safety of the public and the environment. Additionally, if the information required of applicants were not collected, then the NRC would not be able to approve an applicant’s use of the alternative performance-based framework. As a result, the NRC would not be able to issue an operating license to applicants using the performance-based framework.

1. Circumstances Which Justify Variation from OMB Guidelines

The final rule contains requirements to maintain certain records for longer than the three-year retention period contained in OMB guidance. The final rule contains requirements to retain certain recordkeeping documents throughout the life of license. An SMR and ONT facility will be required to have a site-specific emergency plan maintained until the license is terminated. This will include records related to the EP plans, changes to EP plans, training and exercise records, and communications with offsite authorities. By maintaining these records throughout the life of the facility, the NRC can maintain proper oversight and enforcement, to include inspections, as well as give the NRC the up-to-date information it needs to be able to effectively and accurately monitor any emergency at the facility. Based on its authority under the AEA, the Commission determined that these requirements are necessary for SMR and ONT facilities to provide for the public health and safety.

1. Consultations Outside the NRC

The NRC provided an opportunity for public comment when the proposed rule was published under RIN 3150-0225 on May 12, 2020, for a 75-day public comment period. On July 21, 2020, the NRC extended the public comment period by an additional 60 days, with a closing date of September 25, 2020, to allow the public more time to comment on the proposed rule. On June 24, 2020, the NRC hosted one public meeting to engage with external stakeholders on the proposed rule and associated draft guidance document during the public comment period. The NRC received 2,212 comment submissions on the proposed rule including 121 unique submissions, 2,087 form letters and form letters with non-substantive additional text, and four form letters with additional substantive text. One of the NRC’s responses to these public comments affected the rule’s information collection requirements. Two commenters argued that the proposed requirement in 10 CFR 50.160(c)(1) and 10 CFR 50.160(c)(2) for applicants to conduct an initial exercise to demonstrate effectiveness of the EP program no later than 18 months prior to issuance of an operating license or 18 months prior to fuel load for a combined license (COL) holder was unreasonable. In response, the NRC changed 10 CFR 50.160(c)(1) and 10 CFR 50.160(c)(2) in the final rule to require that applicants conduct an initial exercise within two years before the issuance of an operating license for Part 50 applicants, or the scheduled date for initial loading of fuel for a Part 52 COL holder. This change provides greater flexibility to applicants and licensees but does not affect the estimated burden. No other comments significantly affected the rule’s information collection requirements. A summary of public comments and responses has been uploaded as a supplementary document.

1. Payment or Gift to Respondents

Not applicable.

1. Confidentiality of Information

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

1. Justification for Sensitive Questions

The final regulations do not request sensitive information.

1. Estimated Burden and Burden Hour Cost

The final rule will provide a voluntary alternative for emergency planning for SMR and ONT applicants, as described in the Abstract, which will reduce burden in three ways:

1. *Reduced burden associated with EP requirements in an application*

Under 10 CFR Part 50, different nuclear facilities may require different levels of effort depending on the type of facility, fuel used, size of the facility, the size of the plume exposure pathway EPZ, etc., and these characteristics will determine if EP applications may include both onsite and offsite emergency planning or may be limited to only onsite emergency planning. Burden estimates are provided in Table 3 (total Burden Summary) to indicate how long it will take for each type of license application.

Burden estimates for the clearance period assume that an applicant or licensee for an SMR or ONT will choose to utilize the performance-based regulation instead of the current requirements (i.e., deterministic) because it will be less burdensome for the applicant or licensee. Table 3 shows the estimated total burden time per response for SMRs and ONTs to complete the EP portions of an application using 10 CFR 50.160 as a positive number and the total burden time per response for nuclear power reactors to complete an EP application under the current requirements of Appendix E to Part 50 as a negative number. Thus, the burden shown for the rule is the difference between the time required to submit the EP portions of an application under the new performance-based regulations and the time required to submit the EP portions of an application under the current deterministic regulations. While Table 3 also displays the burden for non-power reactors under the current deterministic framework, the NRC staff does not expect any non-power reactors to submit an application under the performance-based regulation during this 3-year clearance period. Burden estimates for the clearance period assume that one CP application will be submitted annually under 10 CFR Part 50, using the new performance-based EP requirements under 10 CFR 50.160.[[2]](#footnote-4) Generally, the NRC staff assumed that the burden associated with a performance-based EP program will require approximately 90 percent of the effort of the current (deterministic) approach for nuclear power reactors.

Recordkeeping burden for the performance-based requirements will be approximately 50 percent lower than the current deterministic requirements. The recordkeeping burden for EP captured in this 10 CFR Part 50 (3150-0011) OMB supporting statement includes all EP recordkeeping for this final rule (requirements in both 10 CFR Part 50 and Part 52).

1. *Reduction in the number of future License Amendment Requests (LARs) submitted under 10 CFR 50.90*

The final rule will not modify the emergency plan change process. Licensees choosing the performance-based EP approach will use the same criterion currently being used to determine if a LAR needs to be submitted for that change. If a change does not reduce the effectiveness of the emergency plan, no LAR submittal is required. If the change would reduce the effectiveness, then a LAR submittal is required. However, for licensees choosing the performance-based EP approach, the NRC staff expects a reduction in LAR submittals for emergency plan changes based on having a less prescriptive emergency plan and more latitude in making adjustments before a performance-based EP plan is deemed less effective.

The NRC staff anticipates a burden reduction associated with fewer LAR submissions for licensees who opt to submit an EP plan under the performance-based requirements in 10 CFR 50.160. This LAR burden reduction captures all licensees using the performance-based EP framework, regardless of whether their application came in under 10 CFR Part 52 or 10 CFR Part 50.

1. *Reduction in the number of exemption requests submitted under 10 CFR 50.12*

The final rule will also result in a reduction in exemption requests. Historically, licensees of small reactors have requested exemptions from EP regulations because those EP requirements would have imposed a regulatory burden on the applicants that was not necessary to protect the public health and safety due to the facilities’ designs.[[3]](#footnote-5) The NRC anticipates that existing or future SMR and ONT applicants will have designs that differ substantially from the existing fleet of large LWRs, and could also request exemptions from EP requirements that are potentially unnecessary to protect the public health and safety. Additionally, under the current EP framework, 10 CFR 50.33(g) and 10 CFR 50.47(c)(2) provide that the size of plume exposure pathway EPZs and ingestion pathway planning zones (IPZs) for gas-cooled nuclear reactors and for reactors with an authorized power level less than 250 megawatts thermal (MW(t)) may be determined on a case-by-case basis. While this process does not require an exemption request, the NRC anticipates that existing or future SMR and ONT applicants that choose the performance-based approach will have a reduced burden similar to that of reduced exemption requests by forgoing the need for the case-by-case determination process.

The performance based, technology inclusive EP requirements in the final rule consider a wide range of views and acknowledge technological advancements and other differences from large LWRs inherent in SMRs and ONTs, and as a result reduce information collection requirements by precluding the need for exemptions from EP requirements as applicants request permits and licenses. This includes the costs of preparing the exemption requests and responding to the NRC’s requests for additional information through multifaceted interactions, such as correspondence, teleconferences, and meetings. This exemption request burden reduction captures all licensees using the performance-based EP framework, regardless of whether their application came in under 10 CFR Part 50 or 10 CFR Part 52.

*Burden assumptions*

The average annual burden associated with the information collections is given in Table 3 (Total Burden Summary) and is based on the total respondents listed in Table 2 above during the clearance period. The costs are based on the NRC staff’s best estimate of the industry’s burden to generate, maintain, retain, disclose, and provide information related to emergency plan applications, emergency response procedures, and drills and exercises covered by this final rule. The burden estimates show a comparison of one annualized respondent[[4]](#footnote-6) under the performance-based requirements in 10 CFR 50.160 with the same respondent under the current deterministic requirements in Appendix E to 10 CFR Part 50 and, for nuclear power reactor licensees, the planning standards of 10 CFR 50.47(b).

For 10 CFR Part 50 licensees, the recurring reporting burden for monitoring the performance of the EP program is assumed to be less for licensees using the new performance-based framework (10 CFR 50.33, 50.34, 50.47, 50.54, and 50.160) as it is for licensees using the current deterministic framework (10 CFR 50.33, 50.34, 50.54, 50.47, and Appendix E to 10 CFR Part 50). Similarly, for 10 CFR Part 52 licensees, the recurring reporting burden for monitoring the performance of the EP program is assumed to be less for licensees using the new performance-based framework (10 CFR 52.17, 52.79, 50.47, 50.54 and 50.160) as it is for licensees using the current deterministic framework (10 CFR 52.17, 52.79, 50.47, 50.54 and Appendix E to 10 CFR Part 50). The 10 CFR Part 50 EP recurring reporting burden includes 10 CFR Part 52 licensees.

For some application types, no applications are anticipated during the clearance period, as indicated by a “0” under the “Annualized Number of Respondents” column in the clearance period in Table 3. Additionally, the NRC staff does not expect the affected entities to begin operation during this 3-year clearance period; therefore, there is no burden included in the estimates for information collections associated with monitoring and oversight of an implemented emergency plan.

Under 10 CFR 50.54(q)(7), any existing or future holder of an operating or combined license for an SMR or non-LWR, or any future holder of an operating license for an NPUF issued on or before the effective date of this final rule, may submit a LAR to implement an EP plan under 10 CFR 50.160. This is assumed to require the same burden as an initial 10 CFR 50.160 EP application; however, the NRC staff does not anticipate that any current licensees will choose to change from a deterministic EP plan to a performance-based EP plan.

The overall estimated annual burden reduction is 3,292 hours at an estimated annual cost decrease of $987,600 (3,292 hrs x $300/hr). This includes a decrease of 1,906 hours for reporting and a decrease of 1,386 hours for recordkeeping. Totals are rounded to the nearest whole number.

**Table 3**

**Total Burden Summary**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Section | Description | Annualized Number of Respondents | Number of Responses Per Respondent | | Total Annual Responses | | Burden Hrs Per Response  (Hrs) | Total Annual Burden (Hrs) | | Cost @ $300/Hr  ($) |
| REPORTING\* | | | | | | | | | | |
| *Emergency Planning Application* | | | | | | | | | | |
| 50.33, 50.34, 50.54, 50.47, Appendix E | Deterministic Emergency Plan (power facility) Application | -1 | 1 | | -1 | | 2,000 | -2,000 | | -600,000 |
| 50.33, 50.34, 50.54, Appendix E | Deterministic Emergency Plan (non-power facility) Application | 0 | 1 | | 0 | | 1,000 | 0 | | 0 |
| 50.33, 50.34, 50.54, 50.160 | Performance-Based Emergency Plan Application | 1 | 1 | | 1 | | 1,800 | 1,800 | | 540,000 |
| *Emergency Planning Monitoring* | | | | | | | | | | |
| 50.33, 50.34, 50.54, 50.47, Appendix E | Deterministic Emergency Planning Reports for Power Reactors | 0 | 10 | | 0 | | 70 | 0 | | 0 |
| 50.33, 50.34, 50.54, Appendix E | Deterministic Emergency Planning Reports for Non-power Facilities | 0 | 10 | | 0 | | 2 | 0 | | 0 |
| 50.33, 50.34, 50.54, 50.160 | Performance-Based Emergency Planning Reports | 0 | 10 | | 0 | | 10 | 0 | | 0 |
| 52.17, 52.79, 50.54, 50.47, Appendix E | Deterministic Emergency Planning Reports for 10 CFR Part 52 Power Reactors\* | 0 | 10 | | 0 | | 70 | 0 | | 0 |
| 52.17, 52.79, 50.54, 50.160 | Performance-Based Emergency Planning Reports  for 10 CFR Part 52 Power Reactors | 0 | 10 | | 0 | | 10 | 0 | | 0 |
| *License Amendment Request* | | | | | | | | | | |
| 50.90\*\* | License Amendment Request for EP changes | -2 | 1 | | -2 | | 313 | -626 | | -187,800 |
| 50.54(q)(5) | Reports of Non-LAR Changes to Emergency Plan | 0 | 1 | | 0 | | 20 | 0 | | 0 |
| 50.54(q)(7) | Current Licensee Submission of LAR to Request to Implement EP Program Under 10 CFR 50.160 | 0 | 1 | | 0 | | 1,260 | 0 | | 0 |
| *Exemption Requests* | | | | | | | | | | |
| 50.12\*\*\* | Deterministic Emergency Planning Exemption Requests | -3 | 1 | | -3 | | 360 | -1,080 | | -324,000 |
| TOTAL |  | -5 |  | | -5 | |  | -1,906 | | -571,800 |
| RECORDKEEPING\*\*\*\* | | | | | | | | | | |
| Section | Description | Annualized Number of Recordkeepers | | Burden Hrs Per Recordkeeper  (Hrs) | | Total Annual Burden (Hrs) | | | Cost @ $300/Hr  ($) | |
| 52.17, 52.79, 50.54, 50.47, Appendix E | Deterministic Emergency Plan Records | -3 | | 589 | | -1,767 | | | -530,100 | |
| 52.17, 52.79, 50.54, 50.160 | Performance-Based Emergency Plan Records | 3 | | 295 | | 885 | | | 265,500 | |
| 50.90\*\* | License Amendment Request for EP Records | -2 | | 192 | | -384 | | | -115,200 | |
| 50.12\*\*\* | Exemption Requests for EP Records | -3 | | 40 | | -120 | | | -36,000 | |
| TOTAL |  | -5 | |  | | -1,386 | | | -415,800 | |

*\* Recurring reporting under 10 CFR Part 50 covers the burden for 10 CFR Part 50 and Part 52 licensees.*

*\*\* 10 CFR 50.90 covers the burden for 10 CFR Part 50 and Part 52 licensees.*

*\*\*\*10 CFR 50.12 covers the burden for 10 CFR Part 50 and Part 52 licensees.*

*\*\*\*\* EP recordkeeping under 10 CFR Part 50 covers the burden for 10 CFR Part 50 and Part 52 applicants/licensees. The number of recordkeepers to the Part 50 information collection is unchanged by this final rule. All recordkeepers are maintaining records under other Part 50 requirements.*

The $300 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 2023 (88 FR 39120, June 15, 2023).

1. 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 0.0004 times the recordkeeping burden cost. Therefore, the records storage cost savings for this clearance is estimated to be $166 (1,386 recordkeeping hours x $300/hour x .0004). The current records storage cost is $273,447. The new records storage cost including the final rule requirements will be $273,281.

1. 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 staff expects the review burden for performance-based emergency plans to decrease in the future based on increased familiarity of reviews and subsequent submittals incorporating lessons learned.

*Burden assumptions*

For this clearance period, the staff assumes the review burden for a deterministic emergency plan and performance-based emergency plan to be the same.

The NRC’s average annual burden associated with the information collections is given in Table 4 (Annualized NRC Cost). The annualized reduction cost to the government is estimated to be $756,900 (2,523 hours x $300/hour). The current cost to the Federal government for Part 50 is $65,512,656, the new cost to the Federal government following implementation of the rule will be $64,755,756.

**Table 4**

**Annualized NRC Cost**

| Section | NRC Action Description | No. of Actions/Year | Burden Hours/Action | Total Burden Hours | Cost @ $300/Hr  ($) |
| --- | --- | --- | --- | --- | --- |
| 50.47, Appendix E (50.33, 50.34, 50.54) | Deterministic Emergency Preparedness Plan Review | -1 | 1,381 | -1,381 | -414,300 |
| 50.54, 50.160 (50.33, 50.34) | Performance-Based Emergency Preparedness Plan Review | 1 | 1,381 | 1,381 | 414,300 |
| 50.90\* | License Amendment Request for EP Changes | -2 | 192 | -384 | -115,200 |
| 50.54(q)(5)\*\* | Reports of Non-LAR Changes to Emergency Plan | 0 | 20 | 0 | 0 |
| 50.12\*\*\* | Deterministic Emergency Planning Exemption Requests | -3 | 713 | -2,139 | --641,700 |
| Total |  | -5 |  | -2,523 | -$756,900 |

*\*10 CFR 50.90 covers the burden for 10 CFR Part 50 and Part 52 licensees.*

*\*\*10 CFR 50.54(q)(5) covers the burden for 10 CFR Part 50 and Part 52 licensees.*

*\*\*\*10 CFR 50.12 covers the burden for 10 CFR Part 50 and Part 52 licensees.*

This reduced burden on NRC staff is the based on the following assumptions:

* Time to process and review new performance-based EP applications expected to be same burden at first.
* Time to process and review fewer LARs for changes to EP throughout life of the site will reduce staff burden.
* Time to process and review fewer exemption requests from applicants.

1. Reasons for Change in Burden or Cost

The final rule will reduce the overall burden for the Part 50 information collection by 3,292 hours, from 3,636,646 hours to 3,633,354 hours. Reporting burden will decrease by 1,906 hours (from 1,186,462 to 1,184,556) and the recordkeeping burden will decrease by 1,386 hours (from 2,449,984 hours to 2,448,598 hours).

The final rule’s changes to 10 CFR Part 50 and Part 52 will affect 10 CFR Part 50 applicants during the period of this clearance. The annual estimated burden reduction due to the final rule is 3,292 hours covering five respondents annually (15 respondents expected for the clearance period).

The final rule provides performance-based requirements for planning and implementing an EP program for SMRs and ONTs. Having a performance-based framework compared to a deterministic framework that is prescribed in the CFR is expected to result in fewer LARs as the performance-based approach will allow for more regulatory flexibility and provide a basis for appropriate EP through review of design- and site-specific accident scenarios. This burden reduction is captured in this 10 CFR Part 50 supporting statement since LARs for both 10 CFR Part 50 and Part 52 licenses are submitted under 10 CFR 50.90.

The final rule’s performance-based requirements for planning and implementing will allow for more regulatory flexibility, provide a basis for appropriate EP through the review of design- and site-specific accident scenarios, and as a result minimize the need for exemption requests that would otherwise be anticipated under the current regulatory framework. This burden reduction is captured in this 10 CFR Part 50 supporting statement since exemption requests for both 10 CFR Part 50 and Part 52 licenses are submitted under 10 CFR 50.12.

The final rule will decrease the information collection burden for SMR and ONT licensees and applicants that will be permitted to use a performance-based framework to monitor their EP program. Quarterly submissions of the performance objectives for a power reactor licensee are voluntary under the current framework, with most licensees participating. The staff expects the performance objectives gathered by the licensee under the final rule will be approximately the same as the current framework. However, the staff expects the amount of information submitted will be significantly less under the final rule, which will not require quarterly reporting of the performance objectives. Instead, all quarterly performance objective and associated metric paperwork for the previous eight calendar quarters will become a record kept onsite and available for NRC inspection. This estimated recurring reporting burden reduction due to the final rule is zero for this clearance period since no recurring reports will occur during this clearance period (zero for 10 CFR Part 50 and zero for 10 CFR Part 52).

The final rule will decrease the information collection burden for SMR and ONT licensees and applicants that will be permitted to have a performance-based EPZ size less than 10 miles, assuming they meet the eligibility requirements. Under this new performance-based framework, a smaller EPZ could reside within the facility’s site boundary, which will allow the licensee or applicant to forego the offsite emergency planning activities. The final rule also does not provide for a specific IPZ. The final rule includes ingestion response planning requirements instead of an IPZ at a set distance as part of the performance-based framework. Therefore, the information collection will be reduced. Contrastingly, the current framework prescriptively requires a 50-mile IPZ and a 10-mile plume exposure pathway EPZ, which has similar onsite planning activities but with the same or additional offsite emergency planning activities as compared to the performance-based EP framework. This estimated application burden reduction due to the final rule is reflected with the NRC staff’s assumption that the burden associated with a performance-based EP program is 10 percent less than the burden associated with a deterministic EP program.

The burden hours per recordkeeper for the performance-based framework will be approximately 50 percent lower than the current deterministic requirements due to reduction in size of reports required to be kept as records. This estimated recordkeeping burden reduction due to the final rule covers an average of five recordkeepers annually.

**Table 5**

**Change in Burden and Responses**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Current Part 50 Clearance | Change Due to EPSMR Final Rule | New Part 50 Total |
| Burden Hours | 3,636,646 | -3,292 | 3,633,354 |
| Responses | 42,196 | -10 | 42,186 |

1. Publication for Statistical Use

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

1. 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.

1. Exceptions to the Certification Statement

None

1. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

Not applicable

DESCRIPTION OF INFORMATION COLLECTION REQUIREMENTS CONTAINED IN

THE EMERGENCY PREPAREDNESS FOR SMALL MODULAR REACTORS AND OTHER NEW TECHNOLOGIES FINAL RULE

10 CFR PART 50

The 10 CFR Part 50 information collection requirements that will be impacted by the final rule are discussed below.

Section 50.12 specifies that the Commission may, upon application by any interested person or upon its own initiative, grant an exemption from the requirements of 10 CFR Part 50 when (1) the exemption is authorized by law, will not present an undue risk to public health and safety, and is consistent with the common defense and security; and (2) special circumstances are present. The final rule will establish an alternative framework, under 10 CFR 50.160, for EP requirements that are more commensurate to SMRs and ONTs. As a result, applicants and licensees that choose to use the alternative framework would be less likely to require the exemption process under 10 CFR 50.12 that the current EP regulations would otherwise require. (No text change – burden reduced)

Section 50.33(g) requires 10 CFR Part 50 and Part 52 power reactor applicants to submit radiological emergency response plans of State and local governmental entities in the United States that are wholly or partially within the plume exposure pathway and ingestion pathway EPZs. In addition, this section specifies the required EPZ sizes and factors for determining the size and configuration, and allowances for case-by-case determinations. The final rule will amend 10 CFR 50.33(g) to define an EPZ and the submittal requirements for applications complying with the new 10 CFR 50.160 for SMRs, non-LWRs, and NPUFs. The new paragraphs will require the applicants to submit an analysis to determine the size of the plume exposure pathway EPZ. (Amended)

Section 50.34(a)(10) specifies that a CP application under 10 CFR Part 50 is required to discuss the preliminary plans for coping with emergencies based on the requirements of Appendix E to 10 CFR Part 50. The final rule will amend 10 CFR 50.34(a)(10) to add that an SMR, non-LWR, or NPUF CP application must discuss the preliminary plans for coping with emergencies based on the requirements in either the new 10 CFR 50.160 or Appendix E to 10 CFR Part 50. (Amended)

Section 50.34(b)(6)(v) specifies that an operating license application under 10 CFR Part 50 is required to discuss the plans for coping with emergencies based on the requirements of Appendix E to 10 CFR Part 50. The final rule will amend 10 CFR 50.34(b)(6)(v) to add that an SMR, non-LWR, or NPUF operating license application must discuss the plans for coping with emergencies based on the requirements in either the new 10 CFR 50.160 or Appendix E to 10 CFR Part 50. (Amended)

Section 50.47(f) will be a new section specifying that paragraphs 10 CFR 50.47(a)(2), (b), and (c)(2) do not apply to offsite emergency response plans for nuclear power reactors if their plume exposure pathway EPZ does not extend beyond the site boundary or if the licensee’s onsite emergency plan is not required to meet 10 CFR 50.47(b). The final rule also will amend 10 CFR 50.47(b) to make a conforming change that references 10 CFR 50.47(f). The NRC anticipates the result of this change will be a reduction in the unnecessary burden of providing for offsite emergency planning if the facility does not have an EPZ that extends offsite, as determined in accordance with the new 10 CFR 50.33(g)(2) performance-based requirements. (New)

Section 50.54 establishes license conditions for licenses issued by the NRC. 10 CFR 50.54(q) requires nuclear power reactors and non-power production or utilization facilities to follow and maintain in effect emergency plans which meet the applicable standards in 10 CFR 50.47 and requirements in Appendix E to 10 CFR Part 50. The final rule will revise 10 CFR 50.54 for conforming changes to make applicable the option for an SMR, non-LWR, and NPUF licensee to follow the emergency plan requirements of the new 10 CFR 50.160. The final rule will amend paragraph (q)(2) to allow an SMR, non-LWR, and NPUF licensee to follow and maintain the effectiveness of an emergency plan that meets either the requirements of 10 CFR 50.160, or the requirements of Appendix E to 10 CFR Part 50 and, except for NPUF licensees, 10 CFR 50.47(b). Section 50.54(q) also authorizes licensees to make changes to their emergency plans without NRC approval, provided the licensee performs and retains an analysis demonstrating that the change(s) does/do not reduce the effectiveness of the plan and establishes the recordkeeping and reporting requirements for changes made to an emergency plan. The final rule will revise paragraph (q)(3) to specify when an SMR, non-LWR, or NPUF licensee could make changes to its emergency plan without NRC approval. Paragraphs (q)(4) and (q)(5) also will be revised to remove the date February 21, 2012, while paragraph (q)(4) will be further revised to specify that licensees who use the new 10 CFR 50.160 and propose an emergency plan change that reduces plan effectiveness will need to specify, in a license amendment request, the basis for concluding their revised emergency plans continue to meet the requirements of the section. It also will add new paragraph (q)(7) that will contain the details for SMR, non-LWR, or NPUF licensees to submit license amendment requests for implementing EP programs with the associated plan modifications necessary to meet the requirements of new 10 CFR 50.160. Although (q)(7) will be a new requirement, the NRC does not expect current licensees to invoke this burden. In all, the changes to 10 CFR 50.54 are not expected to change the information collection burden as the change process remains relatively unchanged and the NRC does not expect any respondents invoking this section during this clearance period. In the future, the NRC expects a reduction in number of respondents due to the greater flexibility afforded by the new alternative framework. The final rule includes several other minor clarifications; however, these clarifications do not change the information collection burden. (Amended)

Section 50.90 specifies that when a licensee desires to amend its license or permit, it must file an application for an amendment with the Commission that fully describes the changes and follows, as far as applicable, the form prescribed for original applications. The final rule will establish an alternative framework, under 10 CFR 50.160, for EP requirements that are more commensurate to SMRs and ONTs. The performance-based framework maintains fewer prescriptive requirements in the regulations, therefore, resulting in a reduction in the expected number of license amendment requests for changes to an approved program submitted to the NRC. (No text change - burden reduced)

Section 50.160 will add new 10 CFR 50.160, which will contain alternative, performance-based EP requirements for SMRs, non-LWRs, and NPUFs. The current EP framework is deterministic and consists of meeting 10 CFR 50.47 and Appendix E to 10 CFR Part 50 (for SMRs and non-LWRs) or meeting Appendix E to 10 CFR Part 50 only (for NPUFs). There will be a recordkeeping requirement imposed by the requirements, and a corresponding recordkeeping requirement avoided where licensees no longer need to comply with the emergency plan requirements under 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The new performance-based framework will provide a means for an applicant to determine the EPZ size based on the results of the analysis required in 10 CFR 50.33(g)(2). As such, this new framework also allows for onsite‑only emergency plans if the applicant’s or licensee’s plume exposure pathway EPZ does not extend beyond the site boundary. The result could be a 37 percent burden reduction in the initial application reporting, an 85% burden reduction in the recurring annual reporting, and a 50 percent burden reduction in the recordkeeping when compared to the current deterministic framework. The new performance-based framework also provides requirements to monitor the emergency plan once implemented. (New)

Appendix E to 10 CFR Part 50 specifies the content of emergency plans for production and utilization facilities and establishes the minimum requirements for emergency plans to provide reasonable assurance that public health and safety is not endangered by operation of the facility concerned. The final rule will make changes to the rule text to reference NPUFs as opposed to research and test reactors. (Amended)

10 CFR PART 52 (*for reference only*):

Section 52.17(b)(2)(i). This section allows an early site permit (ESP) applicant to propose major features of the emergency plans in the site safety analysis report (SAR), in accordance with the pertinent standards of 10 CFR 50.47, and the requirements of Appendix E to 10 CFR Part 50. The final rule provides for a conforming change in this section to allow the eligible ESP applicant for an SMR or ONT, proposing an emergency plan with major features described, the alternative to be in accordance with the applicable standards of 10 CFR 50.160. The information collection burden for this section is expected to be about half that of 10 CFR 52.17(b)(2)(ii) since this section only requires a portion of the complete emergency plans required of 10 CFR 52.17(b)(2)(ii). If the eligible ESP applicant elects to follow the new performance-based requirements in 10 CFR 50.160, then the emergency plans may not be required to contain offsite planning. As such, the initial application reporting requirements of performance-based emergency plans with onsite-only planning are expected to be 67 percent that of the current deterministic emergency plans with onsite and offsite planning (i.e., 70 percent that of performance-based emergency plans with onsite and offsite planning). Attributing to this is the lack of planning activities with Federal Emergency Management Agency (FEMA), local law enforcement, State and local governments, as well as reduction in the design and maintaining of the offsite equipment. (Amended)

Section 52.17(b)(2)(ii). Alternatively, this section allows an ESP applicant to propose complete and integrated emergency plans in the site SAR for review and approval by the NRC, in consultation with the FEMA, in accordance with the applicable standards of 10 CFR 50.47, and the requirements of Appendix E to 10 CFR Part 50. The final rule provides for a conforming change in this section to allow the eligible ESP applicant for an SMR or ONT, proposing a complete and integrated emergency plan, the alternative to be in accordance with the applicable standards of 10 CFR 50.160. To the extent approval of emergency plans is sought, the application must contain the information required by 10 CFR 50.33(g) and (j). If the eligible ESP applicant elects to follow the new performance-based requirements in 10 CFR 50.160, in lieu of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50, then the emergency plans may not be required to contain offsite planning. As such, the initial application reporting requirements of performance-based emergency plans with onsite-only planning are expected to be 67 percent that of the current deterministic emergency plans with onsite and offsite planning (i.e., 70 percent that of performance-based emergency plans with onsite and offsite planning). Attributing to this is the lack of planning activities with FEMA, local law enforcement, State and local governments, as well as reduction in the design and maintaining of the offsite equipment. (Amended)

Section 52.79(a). This section requires that a combined license (COL) application contain a final safety analysis report (FSAR) that describes the facility; presents the design bases and the limits on its operation; and presents a safety analysis of the SSCs of the facility as a whole. Section 52.79(a) requires that the FSAR shall include a level of information sufficient to enable the Commission to reach a final conclusion on all safety matters that must be resolved by the Commission before issuance of a COL. Paragraph (a)(21) requires the COL application to include information on the emergency plans complying with the requirements of 10 CFR 50.47 and Appendix E to 10 CFR Part 50. The final rule provides for a conforming change in 10 CFR 52.79(a)(21) to allow the eligible COL application for a SMR or ONT, the alternative to be in accordance with the applicable standards of 10 CFR 50.160. All COL applications must describe the complete emergency plan, whether the COL contains the entire text, or incorporates by reference the existing details from an approved ESP. If the eligible COL applicant elects to follow the new performance-based requirements in 10 CFR 50.160, in lieu of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50, then the emergency plans may not be required to contain offsite planning. As such, the initial application reporting requirements of performance-based emergency plans with onsite-only planning are expected to be 67 percent that of the current deterministic emergency plans with onsite and offsite planning (i.e., 70 percent that of performance-based emergency plans with onsite and offsite planning). Attributing to this is the lack of planning activities with FEMA, local law enforcement, State and local governments, as well as reduction in the design and maintaining of the offsite equipment. (Amended)

1. The annualized number of respondents is 1.3, but the NRC adjusted this estimate to the nearest whole number (one respondent). [↑](#footnote-ref-3)
2. Although the EP program is described in 10 CFR 50.160 (OMB clearance 3150-0011), the reporting burden for the initial application is captured under the 10 CFR Part 52 clearance (3150-0151) as part of the full 10 CFR Part 52 application. [↑](#footnote-ref-4)
3. In the past, the NRC has licensed several small reactors with a reduced EPZ size of 5 miles including the Fort St. Vrain high-temperature gas-cooled reactor (842 MWt), the Big Rock Point boiling water reactor (BWR) (240 MWt), and the La Crosse BWR (165 MWt). [↑](#footnote-ref-5)
4. Four 10 CFR Part 50 CP applicants are anticipated during the clearance period, or 1.3 annually. For simplicity in estimating burden, NRC has rounded this to one CP application annually. [↑](#footnote-ref-6)