

1DRAFT SUPPORTING STATEMENT  
FOR  
INFORMATION COLLECTIONS CONTAINED IN  
THE EMERGENCY PREPAREDNESS FOR SMALL MODULAR REACTORS  
AND OTHER NEW TECHNOLOGIES  
PROPOSED RULE

10 CFR PART 50  
DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

(3150-0011)  
REVISION

Abstract

The U.S. Nuclear Regulatory Commission (NRC) is proposing to amend its regulations to create an alternative 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 proposed rule, the term “ONTs” refers to new technologies, such as non-light-water reactors (non-LWRs) and proposed medical radioisotope facilities that would be licensed under 10 CFR Part 50, “Domestic Licensing of Production and Utilization Facilities.” This proposed rule would also define “non-power production or utilization facility” (NPUF) to clarify the applicability of the proposed performance-based EP framework. As used in this proposed rule, the term “non-power production or utilization facility” would be defined to have the same meaning as the definition used in SECY-19-0062, “Final Rule: Non-Power Production or Utilization Facility License Renewal” (June 17, 2019).<sup>1</sup> The definition would 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 § 50.2. In the context of this proposed rule, medical radioisotope facilities that would be licensed under 10 CFR part 50 would 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.

The proposed rule could apply to existing or future SMR and ONT facilities licensed after the effective date of the final rule. These applicants and licensees would have an alternative to develop a performance-based EP program, as opposed to using the existing deterministic EP requirements in 10 CFR Part 50. Further, to allow maximum flexibility while continuing to provide adequate protection of public health and safety and the common defense and security, the NRC staff is proposing to make the new EP requirements an alternative to the current requirements.

The proposed rule, which would add a new section at 10 CFR 50.160, would also add conforming changes throughout 10 CFR Part 50 to reference or invoke the usage of the new

<sup>1</sup> Any changes made to the definition of “non-power production or utilization facility” based on Commission direction will be reflected in the final rule on EP for SMRs and ONTs.

section. The new EP requirements and implementing guidance would adopt a consequence-oriented, risk-informed, performance-based, and technology-inclusive approach, to the extent possible. The new EP requirements and guidance would adopt a scalable plume exposure pathway emergency planning zone (EPZ) and ingestion response planning approach. The new EP requirements and guidance would: (1) continue to provide reasonable assurance that adequate protective measures can and would be implemented by an SMR or ONT licensee; (2) promote regulatory stability, predictability, and clarity; (3) reduce 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 associated with postulated accidents of smaller sized reactors and non-LWRs, including slower transient response times, and relatively small and slow release of fission products. The NRC staff is also proposing conforming changes to 10 CFR Part 52 to facilitate the implementation of the rule.

This supporting statement describes how the proposed rule would 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 Proposed Rule**

Section Number: Amended/Added	OMB Clearance Number (by Part)	Applicable Licensee Types
<b>10 CFR Part 50</b>	<b>3150-0011</b>	
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
<b>10 CFR Part 52</b>	<b>3150-0151</b>	
52.17		SMRs, non-LWRs
52.79		SMRs, non-LWRs

\* new proposed section

#### *Affected Entities*

The proposed revisions to 10 CFR Parts 50 and 52 would affect SMR and ONT licensees or license applicants that are regulated by 10 CFR Part 50 or Part 52. This proposed rule and guidance could affect existing SMR and non-LWR licensees and SMR, non-LWR, and NPUF licensees that would 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 two new SMR or non-LWR applications would 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. There are currently no licensed SMRs or non-LWRs. Although this proposed rule would be applicable to NPUFs, all of which are licensed under 10 CFR Part 50, the NRC staff does not expect NPUF submissions during the period of this clearance, for either existing or new NPUFs.

The NRC does not expect the 10 CFR Part 50 or 10 CFR Part 52 affected entities 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 Proposed Rule**

<b>Technology Type</b>	<b>Application Type/Part</b>	<b>Submittal FY</b>
Non-LWR	CP – Part 50	2021
SMR	CP – Part 50	2022

### *Information Collections*

The 10 CFR Part 50 information collection requirements that would be impacted by the proposed rule are identified below. A more detailed description of the proposed 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

#### A. JUSTIFICATION

##### 1. Need For the Collection of Information

The information collection requirements in the proposed rule are a voluntary alternative to the existing EP requirements in 10 CFR Part 50. Licensees and applicants would 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 EPZ sizes and the extent to which planning for the plume exposure pathway EPZ actions occur, as well as develop and maintain periodic records to demonstrate compliance with the proposed EP performance objectives and associated metrics.

##### 2. 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 provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.

The proposed rule would provide licensees the alternative to submit for NRC approval a performance-based EP program to include a scalable EPZ and licensee-defined performance objectives and metrics. If the EP program is approved by the NRC, the proposed rule would require the licensees to develop and maintain records (and no longer require these to be submitted) on their implemented performance objectives and associated metrics on a quarterly basis. The proposed rule would continue to require the licensees to submit reports related to drills, exercises, and maintenance of their EP program.

The reports and recordkeeping requirements allow the NRC to evaluate the adequacy of the alternative emergency preparedness program for approval 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 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 proposed rule would allow licensees to reduce their emergency plan information collection requirements compared to the current framework based on the potential for smaller EPZs, the reduction in reporting, the reduction in recordkeeping, and the reduction in license amendments and exemptions.

### 3. Reduction of Burden Through Information Technology

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

The NRC 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 100 percent of the potential responses are filed electronically.

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

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

### 5. 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.

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, 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.

7. Circumstances Which Justify Variation from OMB Guidelines

The proposed rule contains requirements to maintain certain records for longer than the three-year retention period contained in OMB guidance. The proposed rule contains requirements to retain certain recordkeeping documents throughout the life of license. An SMR and ONT facility would be required to have a site-specific emergency plan maintained until the license is terminated. This would 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.

If this rule were not promulgated, the SMR and ONT facilities would be subject to 10 CFR 50.54(q)(6), which requires that licensees retain their emergency plan and each change that reduces the effectiveness of the plan as a record until the Commission terminates the reactor license; therefore, the recordkeeping requirements in the proposed rule are consistent with current EP requirements.

8. Consultations Outside the NRC

*General Public*

On August 22, 2016, the NRC staff held a Category 3 public meeting to request feedback from interested stakeholders on a potential performance-based approach for EP for SMRs and ONTs. The participants supported a performance-based approach for EP, indicating that it would be more effective because it would focus on

achieving desired outcomes. Participants also favored the performance-based approach because it would allow for innovation, noting that it should have enough flexibility to accommodate and account for a broad range of sequence of events of various SMR and ONT designs. The results of this public meeting are detailed in the meeting summary (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16257A510). Based on the feedback received from the stakeholders in support of the performance-based approach to EP, the NRC developed the regulatory basis that included an option to proceed with rulemaking to implement this approach.

On April 13, 2017, the NRC issued a draft regulatory basis for a 75-day public comment period (82 FR 17768). In the draft regulatory basis, the NRC requested feedback from the public on questions related to the scope of the draft regulatory basis, performance-based approach, regulatory impacts, and cumulative effects of regulation (CER). In addition, the NRC held a public meeting on May 10, 2017, to discuss the draft regulatory basis with interested stakeholders. The results of this public meeting are detailed in the meeting summary (ADAMS Accession No. ML17139C860).

The NRC received 57 comment submissions on the draft regulatory basis. The staff considered those comment submissions and discussions from the public meeting as it finalized the regulatory basis. The NRC published a notice in the *Federal Register* announcing the public availability of the regulatory basis on November 15, 2017 (82 FR 52862).

The NRC will provide another opportunity for public comment when the proposed rule is published under RIN # 3150-0225. The NRC staff will issue the draft implementing guidance with the proposed rule and draft regulatory analysis to support more informed external stakeholder feedback. Further, the NRC staff will continue to hold public meetings throughout the rulemaking process. Any comments related to information collection requirements in the proposed rule will be addressed at the final rule stage.

#### *Nuclear Energy Institute and Industry Stakeholders*

In addition, the NRC held several public meetings with the Nuclear Energy Institute (NEI) throughout the rulemaking process. Beginning in December 2011, the NRC held a meeting with industry stakeholders to discuss generic licensing and policy issues related to SMRs, including EP. Then, on December 13, 2012, another public meeting was held with NEI to discuss the proposed approach for integral pressurized water reactors on source term analysis and EP evaluation. Another public meeting with NEI held April 17, 2013, discussed the content of the NEI position paper on SMR source terms. On April 8, 2014, the NRC held a meeting with NEI to discuss NEI's proposed EPZ size methodology for SMRs. Later that year, on December 17, 2014, the NRC held a meeting with NEI and the Tennessee Valley Authority (TVA) to discuss a proposed generic framework for SMR EP being developed by NEI.

#### *The Federal Emergency Management Agency and the Environmental Protection Agency*

In December 2014, the NRC consulted with the Federal Emergency Management Agency (FEMA) technical hazards and radiological EP staff and the Environmental Protection Agency (EPA) staff to discuss issues related to SECY-11-0152,

“Development of an Emergency Planning and Preparedness Framework for Small Modular Reactors,” dated October 28, 2011, preliminary SMR design concepts, and potential impacts on both onsite and offsite EP. The staff provided FEMA with a copy of SECY-11-0152 and the opportunity to interact with the staff, obtain clarification, and comment on the paper. FEMA indicated that it would like the NRC to keep it informed on issues raised in SECY-11-0152 and that it supports the staff’s recommendation to explore the issues involving SMR EP through rulemaking. The current regulations require the applicant to submit their offsite emergency response plans to FEMA and get FEMA’s determination before the NRC makes its determination. The proposed alternative regulations would also require any offsite emergency response plans and approval by FEMA if the approved EPZ resides outside the site boundary; however, the proposed alternative is expected to see most applicants having their EPZ within the site boundary and, therefore, applicants would not be required to have an offsite emergency response plan nor have it submitted to FEMA. Hence, the NRC expects a reduction in burden for both the applicant and FEMA.

On September 4, 2014, the NRC met with the FEMA’s Federal Radiological Preparedness Coordinating Committee to discuss the issues raised in SECY-11-0152 relating to SMR EP and the sizes of the EPZs.

Since 2015, the NRC has discussed this rulemaking activity with FEMA during the annual NRC-FEMA In-Progress Review Meetings. In addition, the NRC continues to discuss this rulemaking activity during the quarterly NRC-FEMA EP Steering Committee meetings.

#### *Professional Conferences*

On April 13, 2017, the NRC discussed the preliminary draft regulatory basis document at the National Radiological Emergency Preparedness meeting in Grand Rapids, MI.

#### *Tribes and Agreement States*

Consistent with the Tribal Policy Statement of principles to guide the agency’s Government to Government interactions with American Indian and Alaska Native Tribes, the NRC participated in a teleconference with the Bureau of Indian Affairs’ Tribal Assistance Coordination Group Meeting on August 2, 2018 and sent letters to all the Tribal nations in August 2018. Both were to notify the Tribal nations of the upcoming proposed rule and how they can participate to provide comments.

On July 21, 2016, and July 18, 2018, the NRC presented preliminary information on the EP for SMRs and ONTs rulemaking at the Organization of Agreement States and Conference of Radiation Control Program Directors meeting.

#### 9. Payment or Gift to Respondents

Not applicable.

## 10. Confidentiality of Information

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

## 11. Justification for Sensitive Questions

The proposed regulations do not request sensitive information.

## 12. Estimated Burden and Burden Hour Cost

The proposed rule would provide a voluntary alternative for emergency planning for SMR and ONT reactor applicants, as described in the Abstract, which would reduce burden in two 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 reactor, fuel used, size of the reactor, the size of the site, 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 would take for each type of license application. However, 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.

Burden estimates for the clearance period assume that an applicant or licensee for an SMR or ONT would choose to utilize the proposed alternative performance-based instead of the current requirements (i.e., deterministic) because it would be less burdensome for the applicant and licensee. Table 3 shows the estimated total burden time per response to complete an EP application using 10 CFR 50.160 as a positive number and the total burden time per response 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 EP under the new performance-based regulations and the time required to submit EP under the current deterministic regulations. Burden estimates for the clearance period assume that one CP application will be submitted annually under 10 CFR Part 50 and that the application will include onsite-only planning, using the new performance-based EP standards under 10 CFR 50.160.<sup>2</sup>

Generally, the NRC staff assumed that the burden to prepare and submit a full performance-based EP application (with both onsite and offsite planning) would require approximately 90 percent of the effort of the current (deterministic) approach. The staff assumed that the burden to submit a performance-based EP application with onsite-only planning would require approximately 70 percent of the burden required to prepare and submit a performance-based EP application with both onsite

<sup>2</sup> 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.



and offsite planning. The current deterministic approach requires both onsite and offsite EP planning for power reactors.

Recordkeeping burden for the proposed performance-based alternative would 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 proposed rule (requirements in both 10 CFR Part 50 and Part 52).

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

The proposed rule would not modify the emergency plan change process. Licensees choosing the performance-based EP 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, 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 EP 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.

*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 (one non-LWR and one SMR) listed in Table 2 above. 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 proposed rule. The NRC staff has estimated the burden for each of the requirement in the proposed rule; however, for most requirements no respondents are anticipated during the clearance period. This estimate compares the burden of one annualized respondent<sup>3</sup> under the performance-based 10 CFR 50.160 against that the same respondent under the current deterministic 10 CFR 50.47 and Appendix E to 10 CFR Part 50.

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 proposed performance-based framework (10 CFR 50.33, 50.34, 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 proposed performance-based framework (10 CFR 52.17, 52.79, and 50.160) as it is for licensees using the

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<sup>3</sup> Two 10 CFR Part 50 CP applicants are anticipated during the clearance period, or 0.66 annually. For simplicity in estimating burden, NRC staff has rounded this to one CP application annually.

current deterministic framework (10 CFR 52.17, 52.79, 50.47, and Appendix E to 10 CFR Part 50). For licensees using the new performance-based framework whose EPZ is onsite only, the recurring reporting burden is assumed to be the same as those licensees with a performance-based EPZ covering both onsite and offsite. The 10 CFR Part 50 EP recurring reporting burden includes 10 CFR Part 52 licensees. The NRC 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), licensees with licenses issued on or before the effective date of this proposed 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 2,407 hours at an estimated annual cost decrease of \$633,041 (2,407 hrs x \$263/hr). This includes a decrease of 1,333 hours for reporting and a decrease of 1,074 hours for recordkeeping.

**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 @ \$263/Hr (\$)
REPORTING*							
50.33, 50.34, 50.54, 50.47, Appendix E	Deterministic Emergency Plan (power facility) Application	-1	1	-1	2,000	-2,000	-526,000
50.33, 50.34, 50.54, 50.47, Appendix E	Deterministic Emergency Plan (non-power facility) Application	0	1	0	1,000		
50.33, 50.34, 50.54, 50.160	Performance-Based Emergency Plan (onsite and offsite) Application	0	1	0	1,800		
50.33, 50.34, 50.54, 50.160	Performance-Based Emergency Plan (onsite only) Application	1	1	1	1,260	1,260	331,380
50.33, 50.34, 50.54, 50.47, Appendix E	Deterministic Emergency Planning Reports for Power Reactors	0	10	0	70		
50.33, 50.34, 50.54,	Deterministic Emergency	0	10	0	2		

Section	Description	Annualized Number of Respondents	Number of Responses Per Respondent	Total Annual Responses	Burden Hrs Per Response (Hrs)	Total Annual Burden (Hrs)	Cost @ \$263/Hr (\$)
Appendix E	Planning Reports for Non-power Reactors						
50.33, 50.34, 50.54, 50.160	Performance-based Emergency Planning Reports (onsite only)	0	5	0	10		
	Performance-based Emergency Planning Reports (onsite & offsite)	0	10	0	10		
52.17, 52.79, 50.47, Appendix E	Deterministic Emergency Planning Reports for 10 CFR Part 52 Power Reactors*	0	10	0	70		
52.17, 52.79, 50.160	Performance-based Emergency Planning Reports for 10 CFR Part 52 Power Reactors (onsite only)*	0	5	0	10		
	Performance-based Emergency Planning Reports for 10 CFR Part 52 Power Reactors (onsite & offsite)*	0	10	0	10		
50.90**	License Amendment Request for EP changes	-1	1	-1	593	-593	-155,959
50.54(q)(5)	Reports of non-LAR changes to emergency plan	0	1	0	20		
50.54(q)(7)	Current licensee submission of LAR to request to implement EP program under 10 CFR 50.160 (onsite only)	0	1	0	1,260		
TOTAL		1		-1		-1,333	-350,579
RECORDKEEPING***							
Section	Description	Annualized Number of Recordkeepers		Burden Hrs Per Recordkeeper (Hrs)	Total Annual Burden (Hrs)	Cost @ \$263/Hr (\$)	
52.17, 52.79, 50.54, 50.47,	Deterministic Emergency Plan	-3		589	-1,767	-464,721	

Section	Description	Annualized Number of Respondents	Number of Responses Per Respondent	Total Annual Responses	Burden Hrs Per Response (Hrs)	Total Annual Burden (Hrs)	Cost @ \$263/Hr (\$)
Appendix E	Records						
52.17, 52.79, 50.54, 50.160	Performance-based Emergency Plan Records	3		295		885	232,755
50.90**	License Amendment Request for EP Records	-1		192		-192	-50,496
TOTAL		-1				-1,074	-282,462

\* 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.

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

The \$263 hourly rate used in the burden estimates is based on the NRC'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 final rule "Revision of Fee Schedules; Fee Recovery for Fiscal Year 2017" (82 FR 30682; June 30, 2017).

### 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 0.0004 times the recordkeeping burden cost. Therefore, the records storage cost savings for this clearance is estimated to be \$113 (1,074 recordkeeping hours x \$263/hour x .0004). The current records storage cost is \$269,620. The new records storage cost including the proposed rule requirements would be \$269,507.

### 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 staff expects the review burden for performance-based (with onsite and offsite planning) emergency plans to decrease in the future based on increased familiarity of reviews and subsequent submittals incorporating lessons learned. The current deterministic approach requires both onsite and offsite EP planning for power reactors.

#### *Burden assumptions*

For this clearance period, the staff assumes the review burden for a deterministic emergency plan and performance-based emergency plan (with both onsite and offsite planning) to be the same. The staff also assumed that the burden to review a

performance-based emergency plan with onsite-only planning would require approximately 70 percent of the burden required to review a performance-based emergency plan with both onsite and offsite planning.

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 \$163,586 (622 hours x \$263/hour).

**Table 4**  
**Annualized NRC Cost**

Section	NRC Action Description	No. of Actions/Year	Burden Hours/Action	Total Burden Hours	Total Cost
50.47, Appendix E (50.33,50.34, 50.54)	Deterministic Emergency Preparedness Plan review	-1	1,433	-1,433	-376,879
50.54, 50.160 (50.33, 50.34)	Performance-based Emergency Preparedness Plan review (onsite & offsite)	0	1,433		
50.54, 50.160 (50.33, 50.34)	Performance-based Emergency Preparedness Plan review (onsite only)	1	1,003	1,003	263,789
50.90*	License Amendment Request for EP changes	-1	192	-192	-50,496
50.54(q)(5)**	Reports of non-LAR changes to emergency plan	0	20		
Total		-1		-622	-\$163,586

\*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.

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

- Time to process and review new performance-based emergency preparedness 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.

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

The proposed rule would reduce the overall burden for the Part 50 information collection by 2,407 hours, from 3,710,960 hours to 3,708,553 hours. Reporting burden would decrease by 1,333 hours (from 1,148,164 to 1,146,831) and the recordkeeping burden would decrease by 1,074 hours (from 2,562,696 hours to 2,561,622 hours).

The proposed rule's changes to 10 CFR Part 50 and Part 52 would affect 10 CFR Part 50 applicants during the period of this clearance. The annual estimated burden reduction due to the proposed rule is 2,407 hours covering one respondent annually (two respondents expected for the clearance period).

The proposed rule provides performance-based standards for planning and implementing. Having a performance-based framework compared to a deterministic framework that is prescribed in the CFR is expected to allow for fewer LARs as the performance-based program detailed requirements reside outside of the CFR. Therefore, if a licensee wanted to make changes to the detailed requirements, a license amendment request would not be required. 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. This estimated burden reduction due to the proposed rule covers one respondent annually (0.42 respondent annually for 10 CFR Part 50 and 0.42 respondent annually for 10 CFR Part 52).

The proposed rule would decrease the information collection burden for SMR and ONT licensees and applicants that would be permitted to use a performance-based framework to monitor their emergency preparedness program. Quarterly submissions of the performance objectives for a power reactor licensee are voluntary under the current framework, with most licensees participating; however, the staff expects the amount of information submitted will be significantly less under the proposed 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 recordkeeper onsite and available for NRC inspection. This estimated recurring reporting burden reduction due to the proposed rule is zero for this clearance period (zero for 10 CFR Part 50 and zero for 10 CFR Part 52).

The proposed rule would decrease the information collection burden for SMR and ONT licensees and applicants that would be permitted to have a performance-based EPZ less than 10 miles, assuming they meet the proposed eligibility requirements. Under this proposed new alternative framework, a smaller EPZ could reside within the facility's site boundary, which would allow the licensee or applicant to forego the offsite emergency planning activities. The proposed rule also eliminates a predetermined ingestion response pathway EPZ (also known as IPZ). Therefore, the information collection would be reduced. Contrastingly, the current framework prescriptively requires a 50-mile IPZ and a 10-mile EPZ for plume exposure which has similar planning activities but with the same or additional considerations and typically requires offsite emergency planning activities. This estimated application burden reduction due to the proposed rule covers one 10 CFR Part 50 respondent annually.

Recordkeeping burden for the proposed performance-based alternative would 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 proposed rule covers an average of three recordkeepers annually (one from 10 CFR Part 50 and two from 10 CFR Part 52).

**Table 5**  
**Change in Burden and Responses**

	Current Part 50 Clearance	Change Due to EPSMR Proposed Rule	New Part 50 Total

Burden Hours	3,710,960	-2,407	3,708,553
Responses	43,618	-1	43,617

16. Publication for Statistical Use

Not applicable. 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

DESCRIPTION OF INFORMATION COLLECTION REQUIREMENTS CONTAINED IN  
THE EMERGENCY PREPAREDNESS FOR SMALL MODULAR REACTORS AND OTHER  
NEW TECHNOLOGIES PROPOSED RULE

10 CFR PART 50

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

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 proposed rule would amend 10 CFR 50.33(g) to add a new paragraph to define EPZ and the submittal requirements for applications complying with the new proposed 10 CFR 50.160 for SMRs and non-LWRs, and NPUFs. The new paragraphs would require the applicants to submit an analysis to determine the size of the plume exposure pathway EPZ. (Amend)

Section 50.34(a)(10) specifies that a construction permit 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 proposed rule would amend 10 CFR 50.34(a)(10) to add that an SMR, non-LWR, or NPUF construction permit application must discuss the preliminary plans for coping with emergencies based on the requirements in either the new proposed 10 CFR 50.160 or Appendix E to 10 CFR Part 50. (Amend)

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 proposed rule would 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 proposed 10 CFR 50.160 or Appendix E to 10 CFR Part 50. (Amend)

Section 50.47(f) would be a new section specifying the planning standards in 10 CFR 50.47(a) (2) and (b) 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 emergency plan is not required to meet these planning standards. These would be the emergency planning standards that must be met in onsite and offsite emergency plans for a nuclear power reactor. The proposed rule also would 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 would 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 proposed 10 CFR 50.160 performance-based requirements. (New)

Section 50.54 establishes license conditions for licenses issued by the NRC. 10 CFR 50.54(q) requires nuclear power, research reactor and/or fuel facility licensees 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 proposed rule would revise 10 CFR 50.54 mostly 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 proposed 10 CFR 50.160. The proposed rule would 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 proposed rule would 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 would be revised to remove the date February 21, 2012, while paragraph (q)(4) would be further revised to specify that licensees who use new 10 CFR 50.160 and propose an emergency plan change that reduces plan effectiveness would need to specify the basis for concluding their revised emergency plans continue to meet the requirements of the section. It also would add new paragraph (q)(7) that would contain the details for submitting license amendment requests for SMR, non-LWR, or NPUF licensees implementing emergency preparedness programs with the associated plan modifications necessary to meet the requirements of new 10 CFR 50.160. Although (q)(7) would be a new requirement, the NRC does not expect current licensees to invoke this burden. In all, the proposed 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 proposed rule includes several other minor clarifications; however, these clarifications do not change the information collection burden. (Amend)

Section 50.90 specifies that the Commission may, upon application by any interested person or upon its own initiative, grant a license amendment 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) when special circumstances are present. The proposed rule would establish an alternative framework, under proposed 10 CFR 50.160, for emergency preparedness 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. However, because eligible licensees are not yet expected to have an approved program implemented during the 3-year period covered by this supporting statement, there are no license amendment requests and no change the information collection burden. (No text change - No burden change)

Section 50.160 would add new 10 CFR 50.160 which would contain alternative, performance-based emergency preparedness requirements for SMRs, non-LWRs, and NPUFs. The current EP framework is deterministic and consists of meeting 10 CFR 50.47(b) 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 would be a recordkeeping requirement imposed by the proposed 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 would provide a means for an applicant to determine the EPZ size, granted it meets the requirements set forth in 10 CFR 50.160. As such, this new framework also allows for onsite-only emergency plans if 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 50percent burden reduction in the

recordkeeping when compared to the current deterministic framework. For this clearance period, it is expected that all of the applications will result in a site boundary EPZ and an onsite-only emergency plan. 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 proposed rule would make changes to the rule text to reference NPUFs as opposed to research and test reactors. (Amend)

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 proposed 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 proposed 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 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 Federal Emergency Management Agency (FEMA), in accordance with the applicable standards of 10 CFR 50.47, and the requirements of Appendix E to 10 CFR Part 50. The proposed 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 proposed new performance-based requirements in 10 CFR 50.160, in lieu of 10 CFR 50.47 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 proposed 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 proposed new performance-based requirements in 10 CFR 50.160, in lieu of 10 CFR 50.47 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. Note, paragraph 52.79(a)(46) accounts for the majority of the burden under 10 CFR 52.79. It requires a COL application to contain a FSAR that describes the plant-specific probabilistic risk assessment or analysis (PRA) and its results. (Amended)