

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NEW REACTORS
WASHINGTON, DC 20555-0001

December 21, 2017

**NRC REGULATORY ISSUE SUMMARY 2017-08
PROCESS FOR SCHEDULING AND ALLOCATING RESOURCES FOR FISCAL
YEARS 2020 THROUGH 2022 FOR THE REVIEW OF NEW LICENSING APPLICATIONS
FOR LIGHT-WATER REACTORS AND NON-LIGHT-WATER REACTORS**

ADDRESSEES

All holders of, and applicants or potential applicants for, a power reactor construction permit (CP) citing a reactor design under Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities."

All holders of, and applicants or potential applicants for, an early site permit (ESP), combined license (COL), standard design certification (DC), standard design approval (SDA), or manufacturing license (ML) citing a reactor design under 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants."

INTENT

The U.S. Nuclear Regulatory Commission (NRC) is issuing this regulatory issue summary (RIS) for the following four purposes:

- (1) to assist the NRC in determining fiscal years (FY) 2020 through 2022 resource and budget needs with respect to future construction-related activities and other anticipated 10 CFR Part 50 and 10 CFR Part 52 licensing and DC rulemaking actions for large light-water reactors (LWRs), non-LWRs, light-water-cooled small modular reactors (SMRs), and other reactor technologies;
- (2) to communicate to stakeholders the agency's process for scheduling its reviews;
- (3) to inform stakeholders that the NRC has expanded its scheduling process to include all potential 10 CFR Part 50 and 10 CFR Part 52 licensing actions and related activities, which include pre-application activities, new license applications, ESP and limited work authorization (LWA) applications, license amendment (LA) requests, topical report submissions, revisions to applications, reactivation of suspended applications, applications for renewal of ESPs and DCs, construction activities, and license transfer requests; and
- (4) to request that addressees consider submitting their construction plans and schedules for fabrication of large components and modules to the NRC when these plans and schedules are available.

This RIS is intended to include licensees and applicants or potential applicants for large LWRs, non-LWRs, light-water-cooled SMRs, and other reactor technologies. Non-LWRs are reactors

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designed to use material other than light water for neutron moderation. For the purpose of this RIS, in accordance with the definition in 10 CFR 171.5, "Definitions," SMRs are the class of light-water power reactors having a licensed thermal power rating less than or equal to 1,000 megawatts thermal per module. This rating is based on the thermal power equivalent of a light-water SMR with an electrical power generating capacity of 300 megawatts electric or less per module.

This RIS is intended to promote early communication between the NRC and potential applicants about planned licensing and construction activities under 10 CFR Part 50 and 10 CFR Part 52. This information will assist the NRC in allocating its FY 2020 through 2022 resources for focus area reviews, acceptance reviews, licensing reviews, and inspection support. This RIS supersedes in its entirety RIS 2016-08, "Process for Scheduling and Allocating Resources in Fiscal Year 2019 for the Review of New Licensing Applications for Light-Water Reactors and Non-Light-Water Reactors," dated June 7, 2016. This RIS does not transmit or imply any new or changed requirements or staff positions. Although no specific action or written response is required, submission of the requested information will enable the NRC to more efficiently and effectively plan its licensing and inspection activities.

BACKGROUND INFORMATION

The information gained as a result of this RIS will be used for scheduling and resource allocation. To inform the NRC's resource allocation efforts, some applicants have used the design-centered review approach (DCRA). The DCRA is the NRC's main strategy for simultaneously reviewing multiple COL applications that refer to the same DC. The NRC outlined the DCRA in RIS 2006-06, "New Reactor Standardization Needed To Support the Design-Centered Licensing Review Approach," dated May 31, 2006 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML053540251). The DCRA is predicated on a consistent level of standardization in design, licensing, construction, and pre-application planning documents. The DCRA requires the NRC staff to conduct a review of a subject area for the referenced application. Once the NRC staff has reached a conclusion about the subject area, that conclusion can be applied to subsequent applications and incorporated by reference, negating the need to re-review subject areas about which the NRC staff has already come to a conclusion. The DCRA can be used for all types of nuclear reactor technology applications. In a similar manner, applicants may find review efficiencies and benefits by forming a design center working group (DCWG) or technology working group (TWG).

Following the issuance of COLs for Vogtle Electric Generating Plant, Units 3 and 4, and Virgil C. Summer Nuclear Station, Units 2 and 3, the NRC initiated a lessons-learned review to identify potential enhancements to the 10 CFR Part 52 licensing process and contribute to more effective and efficient reviews of future applications. After extensive outreach to external and internal stakeholders, the NRC issued the report, "New Reactor Licensing Process Lessons Learned Review: 10 CFR Part 52," in April 2013 (ADAMS) Accession No. ML13059A239). In this report, the NRC identified pre-application interactions and submittal of a complete and high-quality application as important factors in the success of the licensing process and efficiency of the review.

Licensees with advanced reactor designs are encouraged to engage early with the NRC. The NRC formulates its budget by projecting 2 years beyond the current FY in which it is operating. However, the NRC is now trying to project its potential workload through FY 2022. To help the NRC plan its resources appropriately, anyone intending to submit an application, or a technical portion that will support a future application during FYs 2020 through 2022, should consider initiating interactions with the NRC staff as early as possible. Early notification of future applicant intent will allow the NRC staff to engage in pre-application activities with the

future applicant. These pre-application interactions permit the NRC staff to become familiar with the proposed design and approaches to be used by the potential applicant, to identify and resolve potential policy issues before an application is submitted, and to help the NRC plan the necessary resources and schedules in preparation for the review once the application is formally submitted.

SUMMARY OF ISSUE

The NRC encourages potential applicants to provide design, licensing, construction, and pre-application plans and schedules for the period FY 2020 through 2022. The information will allow the NRC to coordinate pre-application activities and act as appropriate (such as by conducting focus area reviews, readiness assessments,¹ vendor audits, or any combination of these activities as necessary) before submission of the actual application. This will result in more efficient reviews of the applications.

In the staff requirements memorandum for SECY-11-0024, "Use of Risk Insights To Enhance the Safety Focus of Small Modular Reactor Reviews," dated May 11, 2011 (ADAMS Accession No. ML111320551), the Commission directed the NRC staff to use the risk-informed and integrated review framework for pre-application and application review activities related to design applications. The NRC staff has taken advantage of lessons learned from recently completed reactor design reviews to expand the scope of pre-application activities. Information submitted in response to the questions that relate to white papers and technical or topical reports will be especially useful in helping the NRC plan and schedule staff activities during the early stages of these projects.

The advance notification of the intent for an application submission date, in conjunction with pre-application activities, will facilitate the likelihood of an acceptance review requiring no more than 60 calendar days.² The NRC staff's goal is to identify and obligate resources 45 days before the date it expects to receive an application. The process is reiterated below to remind addressees of its steps and to emphasize its importance to the NRC's project planning and budgeting process for 10 CFR Part 52 (i.e., COL) and 10 CFR Part 50 (i.e., CP and operating license) application reviews.

Declaration of the Expected Application Submission Date

The NRC encourages applicants to declare, in writing, their anticipated application submission date no later than 90 days in advance of the arrival of the submission. Declarations of anticipated applications will receive a higher priority than other pre-application interactions because they are the best available tool to help the NRC staff allocate resources for application

¹ See NRO-REG-104, "Pre-application Readiness Assessment," dated October 8, 2014 (ADAMS Accession No. ML14079A197).

² As stated in RIS 2007-25, "Combined License Application Acceptance Review Process," dated December 18, 2007 (ADAMS Accession No. ML072620378), the Commission approved the COL Task Force's recommendation to extend the 30-day acceptance review to a 60-day acceptance review for COL applications. Because DC applications require extensive reviews, the NRC staff also anticipates a 60-day acceptance review for DCs.

acceptance reviews. Declaration of desired pre-application interaction timeframes, as well as issues to be addressed during pre-application, would also be helpful in allocating the NRC's resources.

Schedule Changes

The NRC will allocate resources to accomplish its review, based on the future applicant's declaration of an expected application or focus area submission date. The NRC staff will work with applicants and future applications to the extent practical to accommodate emergent notices of submittals or schedule changes.

Advance Issuance of Acceptance Review Schedule and Start of Application Review

For a complete application, the NRC staff will make its schedule for acceptance reviews publicly available approximately 30 days before the projected start date. Furthermore, for COL applications, it should be understood that the start of a detailed review depends on docketing and other considerations, such as the applicant's intended construction and operation plans, and whether NRC staff or NRC contractors will conduct the review. The NRC's priority will be given to applications with plans for construction and operation designated for completion before FY 2026.

VOLUNTARY RESPONSE

The NRC develops its schedules for budget cycles 2 to 3 years in advance. In addition, the NRC continuously updates its pre-application, licensing, and project plans for its new-reactor licensing program. To support this effort and help the NRC plan its resources appropriately for FYs 2020 through 2022, the NRC is seeking new or updated information on schedules for submitting an application for a CP, ESP, LWA, LA, OL, COL, DC, SDA, or ML and on the interest and intent for pre-application design-related activities for all types of reactors and nuclear power plant designs. The agency also welcomes information on intentions beyond the timeframe of FYs 2020 through 2022.

The NRC may share the planned application schedules with other Federal agencies to support its planning efforts on the licensing of new plants. If a prospective applicant deems this information proprietary, a request to withhold information from public disclosure in accordance with 10 CFR 2.390, "Public inspections, exemptions, requests for withholding," must accompany the information.

Regulatory Information Summary 2004-11, "Supporting Information Associated with Requests for Withholding Proprietary Information," dated June 29, 2004 (ADAMS Accession No. ML041180231), provides additional information about requests for withholding proprietary information from public disclosure. The NRC asks potential applicants to request withholding only for information that they currently treat as proprietary and to provide, where necessary, the proprietary information in designated attachments to their response to this RIS.

If an addressee chooses to provide a voluntary response, the NRC would like to obtain the information within 45 days of the date of this RIS. Respondents should answer the questions below, as applicable to their specific reactor designs, to the best of their ability, providing as much detail as possible.

Question for COL license holders:

How many licensing actions (e.g., license amendment requests, exemption requests, relief requests) would you expect to submit to the NRC during FYs 2020 through 2022?

Licensing process questions for all potential/future applicants:

1. (a) What types of NRC interactions do you plan to seek (e.g., pre-application, focused review, permit, license, design approval, amendment, renewal, certification)? This may be in the form of a white paper; topical report; CP, DC, ESP, LWA, COL, OL, SDA, ML, or LA request, or purchasing approval request.

(b) If you plan to request an ESP, will you seek approval of either proposed major features of the emergency plans in accordance with 10 CFR 52.17(b)(2)(i) or with 10 CFR 52.17(b)(2)(ii)
2. In which month and year do you expect to submit your applications or other documents?
3. (a) If applicable at this time, is there a designated reference COL applicant?

(b) In what order would you like the NRC to review the subsequent applications?
4. (a) Where will the facility be located?

(b) How many units or modules will the design contain, or a specific facility contain, if known?
5. (a) Will you be part of an organized DCWG or TWG?

(b) Who are the other members of the DCWG or TWG?

(c) Who will be the primary point of contact for each DCWG or TWG?

Technical questions for all potential and future applicants (to the extent practical and possible, please reply to the following questions):

1. (a) What type of reactor design will be used?

(b) What type of coolant and fuel will be used?
2. (a) What is the current status of the development of the facility design (i.e., conceptual, preliminary, or final)?

(b) Have you established a schedule for completing the design?
3. (a) Do you plan to submit white papers or technical and topical reports related to the features of your design or for the resolution of policy or technical issues?

(b) Do you have a schedule for submitting such papers or reports?
4. (a) Are you interested in licensing and testing a first-of-a-kind plant under the prototype provisions of 10 CFR 50.43(e)?

(b) If so, to the extent practical, describe milestones, plans, and intended tests.

5. (a) Are vendors or consultants assisting you in preparing the application?
 - (b) If so, please describe their roles and responsibilities for the design and licensing activities.
6. (a) Are the U.S. Department of Energy, national laboratories, universities, or other institutions assisting you in developing the design or preparing the application?
 - (b) If so, please describe their roles and responsibilities for the design and licensing activities.
7. Have you established a schedule for qualifying fuel and other major systems and components?
8. (a) Have you developed computer codes and models to perform design and licensing analyses?
 - (b) Have you established a schedule for completing the design and licensing analyses?
9. Describe, to the extent practical, your schedule for defining principal design criteria, licensing-basis events, and other fundamental design and licensing relationships.
10. (a) Have you developed procedures for the use of thermal fluidic testing facilities and for use of the results of their tests to validate computer models?
 - (b) Have you established a schedule for completing the thermal fluidic testing?
 - (c) Have you established a schedule for the construction of testing facilities?
11. (a) Have you identified system and component suppliers (including fuel suppliers), manufacturing processes, and other major factors that could influence design decisions?
 - (b) Have you established a schedule for identifying suppliers and key contractors?
12. Do you have a quality assurance program or a schedule to develop one?
13. (a) Have you developed probabilistic risk assessment (PRA) models needed to support your applications, including the information needed to support risk-informed licensing approaches (for Chapter 19)?
 - (b) Do you plan to use the PRA for any risk-informed applications (e.g., risk-informed technical specifications, risk-informed inservice inspection, risk-informed categorization and treatment, risk-informed inservice testing)?
 - (c) Do you plan to use the PRA models in the development of the design?
 - (d) At what level will the PRA be prepared, and at what point during the application process will it be submitted?
14. Have you developed the plans for the construction and use of a control-room simulator?

15. (a) Do you have a staffing plan?
- (b) What is your current staffing level for the execution and testing of the reactor design?
- (c) Do you plan to increase staffing?
16. (a) Which systems, structures, and components, including fuel, do you foresee will be fabricated off site and delivered for the manufacturing, fabrication, and site construction of a completed operational nuclear power plant?
- (b) What is intended to be assembled and constructed on site versus at a remote facility?
- (c) In addition, and as applicable, provide the construction plans and schedules for the fabrication of large components and modules of the applicable SMR or non-LWR designs, when these are available.

As stated earlier, the NRC will use this information to formulate its resource request to support new-reactor program activities. The NRC resources appropriated for this program will be prioritized to projects as discussed above.

To ensure that the NRC can effectively schedule resources and facilitate the achievement of an acceptance review in 60 calendar days, the NRC staff requests that, 90 days before the expected submission date, an applicant, licensee, or potential applicant (as applicable) declare the expected submission date (month, day, and year) and estimate the degree of complexity of each of its submittals to the NRC, to the extent practicable. Addressees that choose to provide a response should send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001.

BACKFITTING AND ISSUE FINALITY DISCUSSION

This RIS requests the addressees to inform the NRC of scheduling information for the submission of any planned application or other types of interaction with the NRC, and the status of design-related activities for large and small reactors. The RIS requires no action or written response. Any action on the part of addressees to submit information in accordance with the request contained in this RIS is strictly voluntary. Therefore, this RIS does not represent backfitting, as defined in 10 CFR 50.109(a)(1), nor is it otherwise inconsistent with any issue finality provision in 10 CFR Part 52. Consequently, the NRC staff did not perform a backfit analysis for this RIS or further address the issue finality criteria in 10 CFR Part 52.

FEDERAL REGISTER NOTIFICATION

The NRC did not publish a notice of opportunity for public comment on this RIS in the *Federal Register*, because it pertains to an administrative aspect of the regulatory process that involves the voluntary submission of information on the part of addressees and does not represent a departure from current regulatory requirements.

CONGRESSIONAL REVIEW ACT

This RIS is not a rule as defined in the Congressional Review Act (5 U.S.C. 801–808).

PAPERWORK REDUCTION ACT STATEMENT

This RIS contains information collection requirements that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). The Office of Management and Budget (OMB)

approved the existing requirements under OMB approval number 3150-0228. The NRC estimates that the burden to the public for these voluntary information collections will average 12 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collection.

Send comments regarding this burden estimate or any other aspect of these information collections, including suggestions for reducing the burden, by mail to the Records and FOIA/ Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov; and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0228), Office of Management and Budget, Washington, DC 20503.

Public Protection Notification

The NRC may not conduct nor sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid OMB control number.

CONTACT

Please direct any questions about this matter to the technical contact listed below.

/RA/ (Paul G. Krohn for)

/RA/ (Michael F. King for)

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Note: NRC generic communications may be found on the NRC's public Web site, <http://www.nrc.gov>, under NRC Library/Document Collections.

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ADAMS Accession Number: ML17262B022

*via e-mail

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