[7590-01-P]

NUCLEAR REGULATORY COMMISSION

10 CFR Part 52

[NRC-2015-0224]

RIN 3150-AJ67

Advanced Power Reactor 1400 (APR1400) Design Certification

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is proposing to amend its regulations to certify the Advanced Power Reactor 1400 (APR1400) standard design. Applicants or licensees intending to construct and operate an APR1400 standard design may do so by referencing this design certification (DC) rule. The applicant for the certification of the APR1400 standard design is Korea Electric Power Corporation and Korea Hydro & Nuclear Power Co., Ltd. (KEPCO/KHNP).

DATES: Submit comments by **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. Comments received after this date will be considered if it is practical to do so, but the NRC is able to ensure consideration only for comments received on or before this date.

ADDRESSES: You may submit comments by any of the following methods:

- **Federal Rulemaking Web Site:** Go to https://www.regulations.gov and search for Docket ID NRC-2015-0224. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: Carol.Gallagher@nrc.gov. For technical

questions contact the individuals listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **E-mail comments to:** Rulemaking.Comments@nrc.gov. If you do not receive an automatic e-mail reply confirming receipt, then contact us at 301-415-1677.
- **Fax comments to:** Secretary, U.S. Nuclear Regulatory Commission at 301-415-1101.
- **Mail comments to:** Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Rulemakings and Adjudications Staff.
- **Hand deliver comments to:** 11555 Rockville Pike, Rockville, Maryland 20852, between 7:30 a.m. and 4:15 p.m. (Eastern Time) Federal workdays; telephone: 301-415-1677.

For additional direction on obtaining information and submitting comments, see "Obtaining Information and Submitting Comments" in the SUPPLEMENTARY INFORMATION section of this document.

FOR FURTHER INFORMATION CONTACT: Yanely Malave, Office of Nuclear Material Safety and Safeguards, telephone: 301-415-1519, e-mail: Yanely.Malave@nrc.gov, or William Ward, Office of New Reactors, telephone: 301-415-7038, e-mail: William.Ward@nrc.gov. Both are staff of the U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

SUPPLEMENTARY INFORMATION:

Table of Contents:

I. Obtaining Information and Submitting Comments

A. Obtaining Information

Please refer to Docket ID NRC-2015-0224 when contacting the NRC about the availability of information for this action. You may obtain publicly-available information related to this action by any of the following methods:

- **Federal Rulemaking Web Site:** Go to https://www.regulations.gov and search for Docket ID NRC-2015-0224.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public Documents collection at https://www.nrc.gov/reading-rm/adams.html. To begin the search, select "ADAMS Public Documents" and then select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, at 301-415-4737, or by e-mail to pdr.resource@nrc.gov. For the convenience of the reader, instructions about obtaining materials referenced in this document are provided in the "Availability of Documents" section.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

B. Submitting Comments

Please include Docket ID NRC-2015-0224 in your comment submission.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission. The NRC will post all comment submissions at https://www.regulations.gov as well as enter the comment

submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment into ADAMS.

II. Rulemaking Procedure

Because the NRC considers this action to be non-controversial, the NRC is publishing this proposed rule concurrently with a direct final rule in the Rules and Regulations section of this issue of the *Federal Register*. The direct final rule will become effective on **[INSERT DATE 120 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. However, if the NRC receives significant adverse comments on this proposed rule by **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**, then the NRC will publish a document that withdraws the direct final rule. If the direct final rule is withdrawn, the NRC would address the comments received in response to these proposed revisions in any subsequent final rule. Absent significant modifications to the proposed revisions requiring republication, the NRC does not intend to initiate a second comment period on this action in the event the direct final rule is withdrawn.

A significant adverse comment is a comment in which the commenter explains why the rule would be inappropriate, including challenges to the rule's underlying

premise or approach, or would be ineffective or unacceptable without a change. A comment is adverse and significant if:

1) The comment opposes the rule and provides a reason sufficient to require a substantive response in a notice-and-comment process. For example, a substantive response is required when:

a) The comment causes the NRC to reevaluate (or reconsider) its position or conduct additional analysis;

b) The comment raises an issue serious enough to warrant a substantive response to clarify or complete the record; or

c) The comment raises a relevant issue that was not previously addressed or considered by the NRC.

2) The comment proposes a change or an addition to the rule, and it is apparent that the rule would be ineffective or unacceptable without incorporation of the change or addition.

3) The comment causes the NRC to make a change (other than editorial) to the rule.

For procedural information and the regulatory analysis, see the direct final rule published in the Rules and Regulations section of this issue of the *Federal Register*.

III. Background

Part 52 of title 10 of the *Code of Federal Regulations* (10 CFR), "Licenses, Certifications, and Approvals for Nuclear Power Plants," subpart B, "Standard Design Certifications," presents the process for obtaining standard design certifications. On December 23, 2014, KEPCO/KHNP submitted its application for certification of the APR1400 standard design (ADAMS Accession No. ML15006A098) to the NRC under

subpart B of 10 CFR part 52. The NRC published a notice of receipt of the application in the *Federal Register* (80 FR 5792; February 3, 2015). On March 12, 2015, the NRC formally accepted the application as a docketed application for design certification (80 FR 13035; March 12, 2015). The pre-application information submitted before the NRC formally accepted the application can be found in ADAMS under Docket No. PROJ0782.

The NRC issued the final safety evaluation report for the APR1400 design on September 28, 2018. The final safety evaluation report is available in ADAMS under Accession No. ML18087A364. The NRC will publish a final safety evaluation report in a NUREG titled, "Final Safety Evaluation Report Related to the Certification of the Advanced Power Reactor 1400 Standard Design." The final safety evaluation report is based on the NRC's review of revision 3 of the APR1400 design certification document.

IV. Voluntary Consensus Standards

The National Technology Transfer and Advancement Act of 1995, Pub. L. 104-113, requires that Federal agencies use technical standards that are developed or adopted by voluntary consensus standards bodies unless the use of such a standard is inconsistent with applicable law or otherwise impractical. In this proposed rule, the NRC proposes to certify the APR1400 standard design for use in nuclear power plant licensing under 10 CFR parts 50 or 52. Design certifications are not generic rulemakings establishing a generally applicable standard with which all 10 CFR parts 50 and 52 nuclear power plant licensees must comply. Design certifications are Commission approvals of specific nuclear power plant designs by rulemaking. Furthermore, design certifications are initiated by an applicant for rulemaking, rather than by the NRC. This action does not constitute the establishment of a standard that contains generally applicable requirements.

V. Plain Writing

The Plain Writing Act of 2010 (Pub. L. 111-274) requires Federal agencies to write documents in a clear, concise, and well-organized manner that also follows other best practices appropriate to the subject or field and the intended audience. The NRC has written this document to be consistent with the Plain Writing Act as well as the Presidential Memorandum, "Plain Language in Government Writing," published June 10, 1998 (63 FR 31883). The NRC requests comment on the proposed rule with respect to clarity and effectiveness of the language used.

VI. Paperwork Reduction Act

This proposed rule contains (a) new or amended collection(s) of information subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq). This proposed rule has been submitted to the Office of Management and Budget for review and approval of the information collection(s).

Type of submission, new or revision: Revision.

The title of the information collection: Appendix F to 10 CFR part 52 Design Certification Rule for the APR1400 Design.

The form number if applicable: NA.

How often the collection is required or requested: On occasion

Who will be required or asked to respond: Applicant for a combined license or a design certification amendment.

An estimate of the number of annual responses: 1 (0 annual responses and 1

recordkeeper).

The estimated number of annual respondents: 1.

An estimate of the total number of hours needed annually to comply with the information collection requirement or request: Approximately 37 hours of additional recordkeeping burden. The only burden associated with this rule will be for recordkeeping by the applicant for this design certification.

Abstract: The NRC is proposing to amend its regulations to certify the APR1400 standard design. This action is necessary so that applicants or licensees intending to construct and operate an APR1400 standard design may do so by referencing this DC rule. The applicant for certification of the APR1400 standard design is KEPCO/KHNP.

The NRC is seeking public comment on the potential impact of the information collection contained in this proposed rule and on the following issues:

1) Is the proposed information collection necessary for the proper performance of the functions of the NRC, including whether the information will have practical utility?

2) Is the estimate of the burden of the proposed information collection accurate?

3) Is there a way to enhance the quality, utility, and clarity of the information to be collected?

4) How can the burden of the proposed information collection on respondents be minimized, including the use of automated collection techniques or other forms of information technology?

A copy of the OMB clearance package is available in ADAMS under Accession No. ML18302A089 or may be viewed free of charge at the NRC Public Document Room, One White Flint North, 11555 Rockville Pike, Room O1-F21, Rockville, MD 20852. You may obtain information and comment submissions related to the OMB clearance package by searching on https://www.regulations.gov under Docket ID NRC-2015-0224.

You may submit comments on any aspect of these proposed information

collection(s), including suggestions for reducing the burden and on the above issues, by the following methods:

- **Federal rulemaking Web Site:** Go to http://www.regulations.gov and search for Docket ID NRC-2015-0224.
- **Mail comments to:** Information Services Branch, 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–XXXX) Office of Management and Budget, Washington, DC 20503; e-mail: oira_submission@omb.eop.gov.

Submit comments by **[INSERT DATE 30 DAYS AFTER PUBLICATION IN THE *FEDERAL REGISTER*]**. Comments received after this date will be considered if it is practical to do so, but the NRC staff is able to ensure consideration only for comments received on or before this date.

Public Protection Notification

The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

VII. Availability of Documents

The documents identified in the following table are available to interested persons through one or more of the following methods, as indicated.

Documents Related to APR1400 Design Certification Rule

DOCUMENT	ADAMS ACCESSION NO. / WEB LINK / *FEDERAL REGISTER* CITATION
SECY-19-0020, "Direct Final Rule–Advanced Power Reactor 1400 Design Certification (RIN 3150-AJ67; NRC-2015-0224)"	ML18302A069
KEPCO/KHNP Application for Design Certification of the APR1400 Design	ML15006A037
APR1400 Design Control Document, Revision 3	ML18228A667
APR1400 Final Safety Evaluation Report	ML18087A364
APR1400 Environmental Assessment	ML18306A607
APR1400 Standard Design Approval	ML18261A187
Regulatory History of Design Certification[1]	ML003761550
KEPCO/KHNP Topical and Technical Reports	
APR1400-E-B-NR-16001-NP, Evaluation of Main Steam and Feedwater Piping Applied to the Graded Approach for the APR1400, Rev. 0 (July 2017)	ML18178A215
APR1400-E-B-NR-16002-NP, Evaluation of Safety Injection and Shutdown Cooling Piping Applied to the Graded Approach for the APR1400, Rev. 1 (May 2018)	ML18178A217
APR1400-E-I-NR-14001-NP, Human Factors Engineering Program Plan, Rev. 4 (July 2018)	ML18212A345
APR1400-E-I-NR-14002-NP, Operating Experience Review Implementation Plan, Rev. 2 (January 2018)	ML18081A101
APR1400-E-I-NR-14003-NP, Functional Requirements Analysis and Function Allocation Implementation Plan, Rev. 2 (January 2018)	ML18081A091
APR1400-E-I-NR-14004-NP, Task Analysis Implementation Plan, Rev. 3 (May 2018)	ML18178A223
APR1400-E-I-NR-14006-NP, Treatment of Important Human Actions Implementation Plan, Rev. 3 (May 2018)	ML18178A224
APR1400-E-I-NR-14007-NP, Human-System Interface Design Implementation Plan, Rev. 3 (May 2018)	ML18178A212
APR1400-E-I-NR-14008-NP, Human Factors Verification and Validation Implementation Plan, Rev. 3 (May 2018)	ML18178A213
APR1400-E-I-NR-14010-NP, Human Factors Verification and Validation Scenarios, Rev. 2 (January 2018)	ML18081A088
APR1400-E-I-NR-14011-NP, Basic Human-System Interface, Rev. 3 (May 2018)	ML18178A214
APR1400-E-I-NR-14012-NP, Style Guide, Rev. 2 (January 2018)	ML18081A096

[1] The regulatory history of the NRC's design certification reviews is a package of documents that is available in the NRC's PDR and NRC Library. This history spans the period during which the NRC simultaneously developed the regulatory standards for reviewing these designs and the form and content of the rules that certified the designs.

APR1400-E-J-NR-14001-NP, Component Interface Module, Rev. 1 (March 2017)	ML17094A131
APR1400-E-J-NR-17001-NP, Secure Development and Operational Environment for APR1400 Computer-Based I&C Safety Systems, Rev. 0 (September 2017)	ML18108A470
APR1400-E-N-NR-14001-NP, Design Features To Address GSI-191, Rev. 3 (February 2018)	ML18057B532
APR1400-E-P-NR-14005-NP, Evaluations and Design Enhancements To Incorporate Lessons Learned from Fukushima Dai-Ichi Nuclear Accident, Rev. 2 (July 2017)	ML18044B042
APR1400-E-S-NR-14004-NP, Evaluation of Effects of HRHF Response Spectra on SSCs, Rev. 3 (December 2017)	ML18078A709
APR1400-E-S-NR-14005-NP, Evaluation of Structure-Soil-Structure Interaction (SSSI) Effects, Rev. 2 (December 2017)	ML18078A699
APR1400-E-S-NR-14006-NP, Stability Check for NI Common Basemat, Rev. 5 (May 2018)	ML18178A221
APR1400-E-X-NR-14001-NP, Equipment Qualification Program, Rev. 4 (July 2018)	ML18214A563
APR1400-F-A-NR-14001-NP, Small Break LOCA Evaluation Model, Rev. 1 (March 2017)	ML17114A524
APR1400-F-A-NR-14003-NP, Post-LOCA Long Term Cooling Evaluation Model, Rev. 1 (March 2017)	ML17114A526
APR1400-F-A-TR-12004-NP-A, Realistic Evaluation Methodology for Large-Break LOCA of the APR1400 (August 2018)	ML18233A431
APR1400-F-C-NR-14001-NP, CPC Setpoint Analysis Methodology for APR1400, Rev. 3 (June 2018)	ML18199A563
APR1400-F-C-NR-14002-NP, Functional Design Requirements for a Core Operating Limit Supervisory System for APR1400, Rev. 1 (February 2017)	ML17094A132
APR1400-F-C-NR-14003-NP, Functional Design Requirements for a Core Protection Calculator System for APR1400, Rev. 1 (March 2017)	ML17114A522
APR1400-F-C-TR-12002-NP-A, KCE-1 Critical Heat Flux Correlation for PLUS7 Thermal Design (April 2017)	ML17115A559
APR1400-F-M-TR-13001-NP-A, PLUS7 Fuel Design for the APR1400 (August 2018)	ML18232A140
APR1400-H-N-NR-14005-NP, Summary Stress Report for Primary Piping, Rev. 2 (September 2016)	ML18178A218
APR1400-H-N-NR-14012-NP, Mechanical Analysis for New and Spent Fuel Storage Racks, Rev. 3 (August 2017)	ML17244A015
APR1400-K-I-NR-14005-NP, Staffing and Qualifications Implementation Plan, Rev. 1 (February 2017)	ML17094A152
APR1400-K-I-NR-14009-NP, Design Implementation	ML17094A153

Plan, Rev. 1 (February 2017)	
APR1400-K-Q-TR-11005-NP-A, KHNP Quality Assurance Program Description (QAPD) for the APR1400 Design Certification, Rev. 2 (October 2016)	ML18085B044
APR1400-Z-A-NR-14006-NP, Non-LOCA Safety Analysis Methodology, Rev. 1 (February 2017)	ML17094A139
APR1400-Z-A-NR-14007-NP, Mass and Energy Release Methodologies for LOCA and MSLB, Rev. 2 (May 2018)	ML18212A338
APR1400-Z-A-NR-14011-NP, Criticality Analysis of New and Spent Fuel Storage Racks, Rev. 3 (May 2018)	ML18214A561
APR1400-Z-A-NR-14019-NP, CCF Coping Analysis, Rev. 3 (July 2018)	ML18225A340
APR1400-Z-J-NR-14001-NP, Safety I&C System, Rev. 3 (May 2018)	ML18212A341
APR1400-Z-J-NR-14002-NP, Diversity and Defense-in-Depth, Rev. 3 (May 2018)	ML18214A557
APR1400-Z-J-NR-14003-NP, Software Program Manual, Rev. 3 (May 2018)	ML18214A559
APR1400-Z-J-NR-14004-NP, Uncertainty Methodology and Application for Instrumentation, Rev. 2 (January 2018)	ML18086B757
APR1400-Z-J-NR-14005-NP, Setpoint Methodology for Safety-Related Instrumentation, Rev. 2 (January 2018)	ML18087A106
APR1400-Z-J-NR-14012-NP, Control System CCF Analysis, Rev. 3 (May 2018)	ML18212A343
APR1400-Z-J-NR-14013-NP, Response Time Analysis of Safety I&C System, Rev. 2 (January 2018)	ML18087A110
APR1400-Z-M-NR-14008-NP, Pressure-Temperature Limits Methodology for RCS Heatup and Cooldown, Rev. 1 (January 2018)	ML18087A112
APR1400-Z-M-TR-12003-NP-A, Fluidic Device Design for the APR1400 (April 2017)	ML17129A597
Westinghouse Topical and Technical Report	
WCAP-10697-NP-A, Common Qualified Platform Topical Report, Rev. 3 (February 2013)	ML13112A108
WCAP-17889-NP (APR1400-A-N-NR-17001-NP), Validation of SCALE 6.1.2 with 238-Group ENDF/B-VII.0 Cross Section Library for APR1400 Design Certification, Rev. 0 (June 2014)	ML18044B051
Combustion Engineering, Inc. Technical Reports	
CEN-312-NP, Overview Description of the Core Operating Limit Supervisory System (COLSS), Rev. 01-NP (November 1986)	ML19066A067
CEN-310-NP-A, CPC and Methodology Changes for the CPC Improvement Program (April 1986)	ML19066A085

The NRC may post materials related to this document, including public comments, on the Federal Rulemaking Web site at https://www.regulations.gov under Docket ID NRC-2015-0224. The Federal Rulemaking Web site allows you to receive alerts when changes or additions occur in a docket folder. To subscribe: 1) navigate to the docket folder (NRC-2015-0224); 2) click the "Sign up for E-mail Alerts" link; and 3) enter your e-mail address and select how frequently you would like to receive e-mails (daily, weekly, or monthly).

List of Subjects in 10 CFR Part 52

Administrative practice and procedure, Antitrust, Combined license, Early site permit, Emergency planning, Fees, Incorporation by reference, Inspection, Issue finality, Limited work authorization, Nuclear power plants and reactors, Probabilistic risk assessment, Prototype, Reactor siting criteria, Redress of site, Penalties, Reporting and recordkeeping requirements, Standard design, Standard design certification.

Dated at Rockville, Maryland, this 17th day of May, 2019.

For the Nuclear Regulatory Commission.

Annette Vietti-Cook,
Secretary of the Commission.

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