

U.S. NUCLEAR REGULATORY COMMISSION
Draft Regulatory Guides: Impending Issuance, Availability,
and Applicability to New Reactor Licensing

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Issuance, Availability, and Applicability of Draft Regulatory Guides for New Reactor Licensing.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is currently reviewing and revising numerous guides in the agency's Regulatory Guide (RG) Series. This series has been developed to describe and make available to the public methods that are acceptable to the NRC staff for implementing specific parts of the NRC's regulations, techniques that the staff uses in evaluating specific problems or postulated accidents, and data that the staff needs in its review of applications for permits and licenses.

The proposed revisions do not constitute a backfit to any previously issued staff position for existing nuclear power reactors. The purpose of the ongoing revision of the NRC's RGs is to ensure that prospective applicants have complete, accurate, and current guidance for use in preparing early site permit (ESP), design certification (DC), and combined license (COL) applications for proposed new reactors. In particular, the NRC staff is focused on ensuring that the agency's regulatory guidance is consistent with the rulemaking to update Title 10, part 52, of the Code of Federal Regulations (10 CFR part 52), "Licenses, Certifications, and Approvals for Nuclear Power Plants." The proposed rule was published in the Federal Register on March 13, 2006 (71 FR 12781).¹

¹ This proposed rule superseded the Commission's previous proposed rule, which was published in the Federal Register on July 3, 2003 (68 FR 40026).

The NRC plans to issue for public comment drafts of the proposed revised RGs guides as they are developed over the next several months. The NRC staff will then address any stakeholder comments received during the 45-day comment period, and any changes from the proposed Part 52 rule that are adopted in the final rule, before issuing the final guides for use by applicants by March 2007.

In addition, the NRC intends to apply its established regulatory guidance (as set forth in established, new, and revised RGs) using a consistent approach. In so doing, the staff will ensure that all new reactor applications received in a given time are subjected to the same appropriate level of scrutiny, based on the same regulatory guidance, to implement regulatory requirements that protect the health and safety of the public and the environment.

DISCUSSION: The NRC regulates the siting, construction, and operation of commercially owned nuclear power facilities in the United States through a combination of regulatory requirements, licensing, and oversight (including inspection). These activities enable the agency to fulfill its mission to license and regulate the Nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment.

In late 2000, the NRC became aware that some electric companies were exploring the option of building new nuclear power plants in the United States. As a result, in February 2001, the Commission issued a staff requirements memorandum (SRM COMJSM-00-0003) directing the staff to (1) assess its technical, licensing, and inspection capabilities, as well as its readiness to review new license applications and inspect new nuclear power plants; (2) examine the regulatory infrastructure for 10 CFR parts 50 and 52, as well as other applicable regulations; and (3) identify any enhancements needed to ensure that the agency is prepared to review ESP, DC, and COL applications for new nuclear power plants.

In response to the Commission’s SRM, the staff issued SECY-01-0188, “Future Licensing and Inspection Readiness Assessment” (FLIRA), in October 2001. In addition, although the FLIRA stated that the staff considers the agency’s current regulatory infrastructure adequate to support new reactor licensing, the staff has undertaken minor infrastructure changes to make new licensing reviews more effective and efficient, and to reduce unnecessary regulatory burden on future applicants. The staff’s ongoing review and revision of the NRC’s RGs is one significant aspect of these infrastructure changes.

Through the years, the NRC has established 10 broad divisions of RGs, of which the following are the subject of the staff’s ongoing review and revision:

- Division 1, Power Reactors
- Division 4, Environmental and Siting
- Division 8, Occupational Health

Of the select group of RGs that the NRC has identified as needing review, to date, the staff is currently reviewing and revising the following RGs and draft RGs (DG) to (1) ensure consistency with the rulemaking to update 10 CFR part 52; (2) ensure coherence with NUREG-0800, “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants,” (SRP) which is also undergoing staff review and revision; and (3) provide prospective applicants with complete, accurate, and current guidance for use in preparing ESP, DC, and COL applications for proposed new reactors:

RG	DG	Title
1.7	DG-1117	Control of Combustible Gas Concentrations in Containment Following a Loss-of-Coolant Accident
1.9	DG-1172	Selection, Design, Qualification and Testing of Emergency Diesel Generator Units
1.13	DG-1162	Spent Fuel Storage Facility Design Basis

1.20	DG-1163	Comprehensive Vibration Assessment Program for Reactor Internals During Preoperational and Initial Startup Testing
1.23	DG-1164	Onsite Meteorological Programs
1.26	DG-1152	Quality Group Classifications and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants
1.29	DG-1156	Seismic Design Classification
1.37	DG-1165	Quality Assurance Requirements for Cleaning of Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants
1.57	DG-1158	Design Limits and Loading Combinations for Metal Primary Reactor Containment System Components
1.61	DG-1157	Damping Values for Seismic Design of Nuclear Power Plants
1.68	DG-1166	Initial Test Programs for Water-Cooled Nuclear Power Plants
1.71	DG-1167	Welder Qualification for Areas of Limited Accessibility
1.76	DG-1143	Design Basis Tornado for Nuclear Power Plants
1.92	DG-1127	Combining Modal Responses and Spatial Components in Seismic Response Analysis
1.93	DG-1153	Availability of Electric Power Sources
1.97	DG-1128	Instrumentation for Light-Water-Cooled Nuclear Power Plants To Assess Plant and Environs Conditions During and Following an Accident
1.112	DG-1160	Calculation of Releases of Radioactive Materials in Gaseous and Liquid Effluents from Light-Water-Cooled Power Reactors
1.124	DG-1168	Service Limits and Loading Combinations for Class 1 Linear-Type Component Supports
1.128	DG-1154	Installation Design and Installation of Large Lead Storage Batteries for Nuclear Power Plants
1.129	DG-1155	Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Nuclear Power Plants

1.130	DG-1169	Service Limits and Loading Combinations for Class 1 Plate-and-Shell-Type Component Supports
1.136	DG-1159	Materials, Construction, and Testing of Concrete Containments (Articles CC-1000, -2000, and -4000 through -6000 of the “Code for Concrete Reactor Vessels and Containments”)
1.189	DG-1170	Fire Protection for Operating Nuclear Power Plants
1.196	DG-1171	Control Room Habitability at Light-Water Nuclear Power Reactors
1.200	DG-1161	An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities
1.205	DG-1139	Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants
4.15	DG-4010	Quality Assurance for Radiological Monitoring Programs (Normal Operations) — Effluent Streams and the Environment

The staff is also currently developing the following new DGs to provide prospective applicants with complete, accurate, and current guidance for use in preparing ESP, DC, and COL applications for proposed new reactors:

DG	Title
DG-1142	Guidelines for Environmental Qualification of Safety Related Computer-Based Instrumentation and Control Systems in Nuclear Power Plants
DG-1144	Guidelines for Evaluating Fatigue Analyses Incorporating the Life Reduction of Metal Components Due to the Effects of the Light Reactor Water Environment for New Reactors
DG-1145	Combined License Applications for Nuclear Power Plants (LWR Edition)
DG-1146	Seismic Sources and Safe Shutdown Earthquake Ground Control Motion

The NRC has recently finalized and published Revision 2 of RG 1.92 (July 2006), Revision 4 of RG 1.97 (July 2006), and RG 1.205 (June 2006). In addition, the NRC has already issued drafts of RG 1.7 (DG-1117, August 2002), RG 1.76 (DG-1143, February 2006), RG 1.200 (DG-1161, September 2006), DG-1144 (July 2006), and DG-1145 (September 2006) for public review and comment. The NRC plans to issue drafts of the remaining proposed revised regulatory guides as they are developed between September 2006 and December 2006. The NRC staff will then address any stakeholder comments received during the 45-day comment period, and any changes from the proposed Part 52 rule that are adopted in the final rule, before issuing the final guides for use by applicants by March 2007.

In addition, the NRC intends to apply its established regulatory guidance (as set forth in established, new, and revised regulatory guides) using a consistent approach. The staff will ensure that all new reactor applications received in a given time are subjected to the same appropriate level of scrutiny, based on the same regulatory guidance to implement regulatory requirements that protect the public health and safety and the environment. The staff has determined that existing and revised regulatory guides listed previously will be finalized by March 2007, and uniformly applied (consistent with the staff guidance provided in the SRP) to the ESP, DC, and COL applications that are submitted.

AVAILABILITY AND DATES: The NRC will solicit comments on each new or revised RG for a period of 45 days after each guide is made publicly available through the following electronic distribution channels:

- The NRC's Electronic Reading Room on the agency's public Web site, under Draft Regulatory Guides in the Regulatory Guides document collection, at <http://www.nrc.gov/reading-rm/doc-collections/>

- The NRC's Agencywide Document Access and Management System (ADAMS), at <http://www.nrc.gov/NRC/reading-rm/adams.html> (using the ADAMS accession number specified in the footer on the first page of each regulatory guide)
- the NRC's rulemaking Web site at <http://ruleforum.llnl.gov>

The footer on the first page of each draft regulatory guide will specify the applicable comment date. Comments received after the specified date will be considered if it is practical to do so, but the Commission is able to ensure consideration only of comments received on or before the specified date. Please note that the NRC does not intend to distribute printed copies of these Draft Regulatory Guides unless specifically requested on an individual basis. Such requests for single copies should be made in writing to the U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Reproduction and Distribution Services Section; by e-mail to DISTRIBUTION@nrc.gov; or by fax to (301) 415-2289. Telephone requests cannot be accommodated. In addition, the NRC does not intend to issue separate notices of issuance and availability. Consequently, interested parties should regularly peruse the electronic distribution channels listed previously to identify newly released guides that are available for public comment.

Copies of each DG and other related publicly available documents, including public comments received, can be viewed electronically on computers in the NRC's Public Document Room (PDR), which is located at One White Flint North, 11555 Rockville Pike, Rockville, Maryland Room O-1 F21, and is open to the public on Federal workdays from 7:45 a.m. until 4:15 p.m. The PDR reproduction contractor will make copies of documents for a fee. Selected documents, including public comments on the DGs, can also be viewed and downloaded electronically via ADAMS and the NRC's rulemaking Web site at <http://www.nrc.gov/NRC/reading-rm/adams.html> and <http://ruleform.llnl.gov>, respectively. If you do not have access to ADAMS or if you encounter problems in accessing the documents

stored in ADAMS, contact the PDR Reference Staff at (800) 397-4209 or (301) 415-4737, or by email to PDR@nrc.gov.

COMMENT PROCEDURES: The NRC staff will solicit comments on each proposed DG.

Comments may be accompanied by relevant information or supporting data. Please mention the DG number (DG-xxxx) in the subject line of your comments. Comments submitted in writing or in electronic form will be made available to the public in their entirety through ADAMS.

Personal information will not be removed from your comments. You may submit comments by any of the following methods:

- Mail comments to Rules and Directives Branch, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001 (MS T-6 D59).
- Hand-deliver comments to Rules and Directives Branch, Office of Administration, U.S. Nuclear Regulatory Commission, 11555 Rockville Pike, Rockville, Maryland 20852, between 7:30 a.m. and 4:15 p.m. on Federal workdays.
- Fax comments to Rules and Directives Branch, Office of Administration, U.S. Nuclear Regulatory Commission, at (301) 415-5144.
- Email comments to NRCREP@nrc.gov.
- Submit comments via the NRC's rulemaking Web site at <http://ruleforum.llnl.gov>.

CONTACT INFORMATION: The header on the first page of each DG will specify the name and telephone number of the cognizant NRC staff member. Comments and questions about our rulemaking Web site should be addressed to Carol A. Gallagher at (301) 415-5905 or by e-mail to CAG@nrc.gov. Contact information for use in obtaining printed or electronic copies of the proposed DGs is provided in the section on AVAILABILITY AND DATES. Contact information for use in submitting comments is provided in the section on COMMENT

PROCEDURES. Comments or questions about the NRC's revision of regulatory guides to support new reactor licensing should be addressed to Jimi T. Yerokun at (301) 415-0585 or by e-mail to JTY@nrc.gov.

Dated at Rockville, Maryland, this 14th day of September, 2006.

For the U.S. Nuclear Regulatory Commission,

/RA/

Farouk Eltawila, Director
Division of Risk Assessment and Special Projects
Office of Nuclear Regulatory Research