

Regulatory Guide Number: 5.73

Title: Fatigue Management for Nuclear Power Plant Personnel

Office/division/branch: NRR/DIRS/IRAB
Technical Lead: Molly Keefe-Forsyth

Staff Action Decided: Reviewed with issues identified for future consideration

1. What are the known technical or regulatory issues with the current version of the Regulatory Guide (RG)?

Regulatory Guide (RG) 5.73, "Fatigue Management for Nuclear Power Plant Personnel," issued in March of 2009, describes a method that the staff of the U.S. Nuclear Regulatory Commission (NRC) considers acceptable for complying with 10 CFR Part 26, Subpart I, the Commission's regulations for managing personnel fatigue at nuclear power plants. Regulatory Guide 5.73 endorses, with clarifications, additions, and exceptions, NEI 06-11, Revision 1, "Managing Personnel Fatigue at Nuclear Power Reactor Sites," dated October 2008 (ADAMS Accession No. ML083110161).

The known issues with the current version of RG 5.73 concern the following changes in requirements and updates to guidance that are not reflected in the current version of the RG.

1. After publication of RG 5.73, the NRC amended 10 CFR Part 26, Subpart I, to include an alternative method for managing cumulative fatigue. The NRC published the final rule in the Federal Register (76 FR 43534) on July 21, 2011. The new requirement, §26.205(d)(7), and associated conforming changes to Subpart I, were not addressed in a revision to RG 5.73. Rather, concurrent with publication of the rule, the NRC staff endorsed an addendum to NEI 06-11 (ADAMS Accession Number ML11189A177) with a letter from Mr. Troy W. Pruett to Mr. John C. Butler (ADAMS Accession No. ML11180A261). The NRC subsequently issued RIS 2012-09, Endorsement of Nuclear Energy Institute Guidance Using an Alternative Method to Manage Cumulative Fatigue at Nuclear Power Reactor Sites (ADAMS Accession No. ML11230A678) to notify addressees of methods of managing cumulative fatigue that are endorsed by the staff.
2. The NRC Office of Enforcement issued EGM-09-008, "Enforcement Guidance Memorandum—Dispositioning Violations of NRC Requirements for Work Hour Controls Before and Immediately After a Hurricane Emergency Declaration," dated September 24, 2009, to give NRC staff guidance for dispositioning certain 10 CFR Part 26 violations and potentially granting enforcement discretion for the affected requirements (ADAMS Accession No. ML092380177). Additionally, to provide stakeholders guidance concerning details for requesting and receiving relief from the work hour controls in 10 CFR Part 26, Subpart I, "Managing Fatigue," before the onset of hurricane-force winds, or before entry into the site's emergency plan because of high-wind conditions, the staff issued RIS 2011-08, Fatigue Management

During Hurricane Conditions, 10 CFR Part 26, Subpart I (ADAMS Accession No. ML101050361).

3. Since 2011, the staff has provided clarification of acceptable practices for compliance with 10 CFR Part 26, Subpart I, through publication of answers to approximately 50 stakeholder questions. The most recent request and response was posted in 2016. The questions and staff responses are on a publicly available NRC web page, Frequently Asked Questions About Managing Fatigue (<https://www.nrc.gov/reactors/operating/ops-experience/fitness-for-duty-programs/faqs/manage-fatigue.html>).

In its 2015 periodic review of RG 5.73 (ADAMS Accession No. ML15040A442), the staff noted that a rulemaking effort in progress at that time to address the inclusion of quality verification personnel, as well as several petitions for rulemaking, had created a need to update RG 5.73 to address the new requirements and aggregate the guidance that had been published since initial issuance of the RG. Subsequent to that assessment, the NRC terminated the rulemaking effort to include quality verification personnel as a covered group under the work hour control requirements of 10 CFR Part 26, Subpart I (ML15196A132), and to date, the petitions for rulemaking (i.e., PRM 26-3, (ADAMS Accession No. ML092960440), PRM 26-5, (ADAMS Accession No. ML102590440), and PRM 26-6 (ADAMS Accession No. ML102630127)) have not resulted in any new or revised requirements. In addition, although NEI developed a draft revision 2 of NEI-06-11 (ADAMS Accession No. ML17136A152), and the staff provided comment on the draft (ADAMS Accession No. ML17138A013), NEI later issued a letter to NRC withdrawing their request for NRC to review the revision and requesting NRC to terminate its efforts to endorse draft revision 2 (ML19179A255).

2. What is the impact on internal and external stakeholders of not updating the RG for the known issues, in terms of anticipated numbers of licensing and inspection activities over the next several years?

The impact of not updating the RG is that stakeholders and staff must reference additional sources of guidance in addition to the RG when considering matters of licensing and compliance with the requirements of 10 CFR Part 26, Subpart I. Given the very limited frequency of licensing and enforcement actions in recent years and projected for the near term, the staff anticipates a minimal impact of not updating the RG. Regarding inspections, the staff is updating IP 93002, "Managing Fatigue" to appropriately reflect the 2011 amendment of Subpart I to include the requirements in §26.205(d)(7). To update the RG the should consider incorporating information from RIS 2012-09, information from EGM-09-008, and, possibly, information from the FAQ website. The staff would need to review these sources and determine whether information could be included as is, or if more guidance would need to be developed.

3. What is an estimate of the level of effort needed to address identified issues in terms of full-time equivalent (FTE) and contractor resources?

A resource estimate of .3-.4 FTE is estimated for this update.

4. Based on the answers to the questions above, what is the staff action for this guide (Reviewed with no issues identified, Reviewed with issues identified for future consideration, Revise, or Withdraw)?

Considering that: (1) the anticipated changes to the 10 CFR Part 26, Subpart I, requirements have not occurred, (2) the additional guidance that has been developed since issuance of RG 5.73 is readily available to stakeholders, and (3) there has been diminishing stakeholder interest in the development of new or clarified guidance, the staff is updating its assessment to conclude that an update to RG 5.73 is not warranted at this time; however, the staff has identified issues for future consideration.

5. Provide a conceptual plan and timeframe to address the issues identified during the review.

Should NRC, at a future date, amend the requirements of 10 CFR Part 26, Subpart I, the staff proposes that RG 5.73 be revised to be consistent with the amended requirements and to aggregate, as appropriate, the supplemental guidance described in response to question 1.

REFERENCES

1. Regulatory Guide (RG) 5.73, "Fatigue Management for Nuclear Power Plant Personnel," issued in March of 2009
2. NEI 06-11, Revision 1, "Managing Personnel Fatigue at Nuclear Power Reactor Sites," dated October 2008 (ADAMS Accession No. ML083110161).
3. Part 26 Endorsement Letter Regarding Implementation of an Alternative Cumulative Fatigue Management Approach Under 10 CFR 26.205(d)(7) (ADAMS Accession No. ML11180A261).
4. NEI 06-11, "Managing Personnel Fatigue at Nuclear Power Reactor Sites," with addendum, dated July 21, 2011 (ADAMS Accession No. ML11189A177)
5. Regulatory Information Summary 2012-09, Endorsement of Nuclear Energy Institute Guidance Using an Alternative Method to Manage Cumulative Fatigue at Nuclear Power Reactor Sites, dated August 7, 2012 (ADAMS Accession No. ML11230A678)
6. EGM-09-008, "Enforcement Guidance Memorandum—Dispositioning Violations of NRC Requirements for Work Hour Controls Before and Immediately After a Hurricane Emergency Declaration," dated September 24, 2009, (ADAMS Accession No. ML092380177).
7. Regulatory Information Summary 2011-08, Fatigue Management During Hurricane Conditions, 10 CFR Part 26, Subpart I dated, August 8, 2011 (ADAMS Accession No. ML101050361).
8. Draft NEI-06-11, Revision 2, ADAMS Accession No. (ML17136A152).

9. Petition for Rulemaking PRM 26-3, "Petition to amend 10 CFR Part 26, Fitness for Duty Programs," dated October 21, 2009 (ADAMS Accession No. ML092960440)
10. Petition for Rulemaking PRM 26-5, "Petition" to amend 10 CFR Part 26, Fitness for Duty Programs," dated September 3, 2010 (ADAMS Accession No. ML102590440)
11. Petition for Rulemaking PRM 26-6, "Petition to amend 10 CFR Part 26, Fitness for Duty Programs," dated August 17, 2010 (ADAMS Accession No. ML102630127)
12. NEI 06-11, Revision 2 Withdrawal letter, dated September 20, 2018 (ADAMS Accession No. ML19179A255)

NOTE: This review was conducted in June 2019 and reflects the staff's plans as of that date. These plans are tentative and subject to change.