

March 4, 2008

MEMORANDUM TO: John D. Monninger, Deputy Director  
Division of Risk Analysis  
Office of Nuclear Regulatory Research

THRU: Jose G. Ibarra, Branch Chief */RA/*  
Human Factors and Reliability Branch  
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FROM: Yavor H. Ivanchev, Human Factors Analyst */RA/*  
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Office of Nuclear Regulatory Research

SUBJECT: MEETING WITH THE PUBLIC ON FEBRUARY 21, 2008, TO  
DISCUSS IMPLEMENTATION GUIDANCE FOR SUBPART I OF  
THE PART 26 FITNESS-FOR-DUTY PROGRAMS

Enclosed is the meeting summary for the February 21, 2008, stakeholder meeting on NEI's draft implementation guidance, NEI 06-11, Revision B, "Managing Fatigue at Nuclear Power Reactor Sites." This guidance is intended to support implementation of Subpart I, "Managing Fatigue," of 10 CFR 26, "Fitness-for-Duty Programs." The meeting participants included U.S. Nuclear Regulatory Commission (NRC) staff and contractors, members of the power reactor licensee community, representatives from the Nuclear Energy Institute (NEI), and a representative of the International Brotherhood of Electrical Workers (IBEW).

The focus of the meeting was a discussion of NEI's changes to the draft guidance since the December 13, 2007, stakeholder meeting and staff comments. This guidance is intended for endorsement by the NRC through a Regulatory Guide to be prepared when the NEI guidance is finalized. During the meeting the staff discussed with industry those issues that the staff is ready to take exceptions to, if agreement could not be reached with industry. These exceptions would be taken in order to support the schedule for finalizing the Regulatory Guide.

Enclosures: 1. Meeting Summary  
2. Meeting Attendance List

CONTACT: Yavor Ivanchev, RES/DRA  
(301) 415-6946

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DATE	03/04/08		03/04/08	03/05/08

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**Summary of February 21, 2008, Public Meeting Regarding  
NEI 06-11 [Revision B],  
Implementation Guidance for Subpart I of 10 CFR Part 26**

On February 21, 2008, the U.S. Nuclear Regulatory Commission (NRC) staff held a public meeting regarding the development of implementation guidance for Subpart I, "Managing Fatigue," of 10 CFR Part 26, "Fitness-for-Duty Programs." The draft implementation guidance is in NEI 06-11, Revision B, "Managing Fatigue at Nuclear Power Reactor Sites." The meeting participants included NRC staff and contractors, members of the power reactor licensee community, representatives from the Nuclear Energy Institute (NEI), and a representative of the International Brotherhood of Electrical Workers (IBEW). The purpose of this meeting was to further discuss draft NEI implementation guidance for Subpart I.

The meeting was noticed on February 1, 2008. The notice is available electronically at the NRC's Electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html>. The public can access the NRC's Agencywide Document Access and Management System (ADAMS), which provides text and image files of NRC's public documents, including the following:

- Meeting Notice (ML080320177)
- Agenda (ML080320240)
- Distribution List (ML080320198)
- NEI 06-11, Revision B, "Managing Fatigue at Nuclear Power Reactor Sites" (ML080320203)
- NEI Letter Regarding 10 CFR Part 26, Definition of Maintenance (ML080320251)
- NRC Staff Comments on NEI 06-11, Revision B (ML080460586)

A list of the meeting attendees is included in Enclosure 2.

The meeting began with a general discussion of the current status of the Fitness-for-Duty (FFD) rulemaking and the regulatory guide endorsement process. The NRC staff acknowledged that this would be the last public meeting for discussing the NEI draft guidance document and clarified that the NRC endorsement of the draft guidance could be either full or partial depending on the resolution of the few unresolved guidance items. The remainder of the meeting consisted of a discussion, led by NRC and NEI representatives, of the revised NEI draft guidance document and staff comments. The following summarizes the discussion of comments and future actions.

### **1. Significant Meeting Items**

- Definition of Maintenance

The NRC staff proposed a revised definition of maintenance, according to which "Maintenance means, for the purposes of § 26.4(a)(4), maintenance activities, including but not limited to, surveillance, post-maintenance testing, and corrective and preventive maintenance." NEI stated that the phrase "included but not limited to" should be removed from the definition as it allows for subjective interpretation of the term "maintenance" by NRC inspectors. In addition, NEI indicated that predictive maintenance should be distinguished from preventive maintenance and

excluded from the maintenance definition. NEI asserted that predictive maintenance activities are non-intrusive to systems, structures, and components (SSCs) and, as such, cannot lead to active or latent errors due to fatigued workers.

The NRC staff responded that non-intrusive activities (e.g., equipment performance monitoring) performed by fatigued workers could result in errors of omission (e.g., failure to detect a failed/degraded condition). The NRC staff also indicated that the proposed definition is taken from the maintenance rule (10 CFR 50.65) and is consistent with the direction of the May 2007 Staff Requirements Memorandum (SRM). Further, the NRC noted that predictive maintenance activities are included in the scope of preventive maintenance as described in NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." NUMARC 93-01 was endorsed by the NRC through a Regulatory Guide 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," as a method acceptable to the NRC staff for complying with the provisions of 10 CFR 50.65. The staff stated that they would like to have a uniform definition of maintenance, used consistently in NEI 06-11 and regulatory space, and well understood by industry.

The NRC staff agreed to consider the issues raised at the meeting and prepare a revised definition as appropriate for both the rule and the guidance.

- Applicability of Work Hour Controls for Covered Individuals Performing Maintenance Work Off-site

The NRC staff and industry representatives discussed whether work hour controls apply to individuals (including vendors) performing maintenance work off-site. The NRC staff noted that the rule does not explicitly state that work performed off-site is not covered and indicated that if an individual working on risk-significant SSCs off-site is granted unescorted access, then he or she would be subject to the work hour requirements of the rule. The NRC staff also acknowledged that individuals who are not granted unescorted access and those providing off-site directing are not subject to the rule.

NEI indicated that the staff's interpretation of the rule is impractical and expressed a concern regarding the timing of this debate. NEI stated that, since the beginning of the guidance development, their interpretation of the rule has been that work off-site is not covered and indicated that this is a new issue that had not been raised earlier. Industry asserted that licensees do not have the ability to control off-site work hours and provided examples to this end. NEI representatives further explained their position that once a component is off-site, it is not risk-significant anymore and, therefore, the work on it is not covered. Additionally, NEI suggested that the applicability issue could be resolved by restricting the definition of maintenance to on-site activities.

The NRC staff agreed to consider this issue further.

- Periodic Overtime

The NRC staff stated that the concept of periodic overtime introduced in NEI 06-11 is unnecessary and should be removed from the implementation guidance. The NRC indicated that worker overtime could be handled adequately within the work hour limits and minimum days off (MDO) requirements established by the rule. The staff also expressed the concern that by not treating periodic overtime as an actual change of shift, the guidance allows licensees to subject covered workers to the less restrictive MDO requirements of the shorter shift duration. Additionally, the NRC staff indicated that the current guidance regarding supervisor overtime is inadequate and potentially in conflict with the requirements of the rule.

NEI agreed to remove the guidance on “supervisor overtime” but stated that the concept of periodic overtime is consistent with the rule and should be retained in the guidance. Industry also expressed the concern that treating periodic overtime as an actual change of shift is unrealistic and will create an unnecessary administrative burden for supervisors. Additionally, NEI indicated that potential abuses by licensees are mitigated by the rule requirements for reviewing schedule adherence and individual performance, as well as implementing corrective action for any individual who works 54 hours or more averaged over the shift cycle.

The NRC staff agreed to consider this issue further.

- Transition Requirements

The NRC staff and industry representatives discussed the transition requirements of Sections 7.3 (Transitioning Onto a Shift) and 7.4 (Transitioning Between Groups or Into a Covered Group) of the implementation guidance. Specifically, the NRC and NEI debated whether a look-back for MDO is necessary when individuals transition between shifts and work groups.

NEI indicated that a look-back for MDO is not needed because a worker who was considered in compliance with the rule provisions previously would be fit for duty at the time of transition to a new shift schedule or work category; therefore, compliance with the rule MDO requirements should be controlled only going forward. The NRC staff disagreed with this interpretation of the rule and explained that different categories of work require different levels of alertness and that a clear distinction should be made between changing duties and changing shifts. While a look-back for MDO is not necessary for individuals changing only shift schedules, it would be needed for personnel transitioning to a new job category with higher alertness demands and more stringent MDO requirements.

The NRC staff agreed to consider this issue further.

- **Work Hour Controls During Outages**

NEI stated that a large number of workers at a site may work under the rule's less stringent outage work hour requirements due to the fact that many individuals will support the outage effort, either directly (e.g., working exclusively on the outage unit) or indirectly (e.g., working on common systems). The NRC staff responded that workers involved in activities on operating units should be subject to the operating work hour requirements of the rule. The staff explained that workers can transition from working on an outage unit to work on an operating unit as long as this transition is properly controlled (e.g., 7-day look-back for MDO).

NEI also indicated that they understood the removal of the word "solely" from the rule to mean that all individuals assigned outage tasks were eligible for outage work hours under the rule and asked for the staff's interpretation. The staff responded that the removal of the word "solely" was to eliminate a potential misunderstanding that workers cannot transition between outage and normal operation units during outage periods.

The NRC staff agreed to consider this issue further.

## **2. Additional Meeting Items Addressed by Stakeholders**

- **Definition of "on-site"**

NEI agreed with the NRC staff comment to revise the definition of "on-site" to mean "within the owner-controlled area" and will revise the definition of "off-site" accordingly.

- **Policy and Procedures**

In the guidance regarding the General Manager's responsibilities, NEI agreed to clarify that review of schedule adherence and review of individual performance are two separate activities.

- **Verification Activities**

NEI will revise the draft guidance to specifically define which verification activities are not subject to work hour controls.

- **Directing**

NEI agreed to revise the draft guidance to eliminate the term "advising" and update the examples on directing. Also, the NRC staff indicated that an industry representative has communicated that the guidance should be clearer with regard to fuel handlers and raised the question of whether the shift manager would be covered by the work hour requirements. NEI agreed to include more clarification in these areas and incorporate the changes into the flow charts presented in the guidance.

- Work Hour Scheduling

The NRC staff stated that the effects of scheduled and unscheduled overtime should be considered as an integral part of the work hour scheduling process and reflected in the guidance. NEI agreed to address scheduled overtime but indicated that it would be difficult to include prescriptive guidance with regard to unscheduled overtime. NEI proposed to address unscheduled overtime as a scheduling factor based on the site's historical review/record of unscheduled overtime.

NEI also agreed to add clarification to the work hour scheduling criteria included in this section of the guidance. Specifically, NEI agreed to include the average duration of a scheduled work week and the actual shift start and end times as independent factors when establishing work schedules.

- Waivers

The NRC staff and NEI representatives discussed the use of a checkbox for supervisory assessment when granting waivers. The current guidance appears to use a checkbox to indicate a criterion was considered without the record providing any information regarding the actual conditions that were considered relative to the criterion. Industry representatives stated that because the information in the check boxes is covered elsewhere in the guidance and all of the evidence is reported in plant records, this information need not be repeated. The NRC staff disagreed with this position and explained that the information should be recorded in one place providing documented basis for the supervisor's decision. NEI agreed to consider this issue further.

- Fatigue Assessments

The NRC staff commented that additional guidance, including examples of controls and conditions which allow the individual to resume his or her duties, should be added to the discussion of how to conduct and document fatigue assessments. NEI agreed to address this comment.

- Reviews

The NRC staff indicated that the guidance in this section should not limit the review of individual performance to information contained only in the corrective action program (CAP). NEI agreed to revise the guidance in this regard. In addition, the NRC suggested that the guidance should clearly differentiate between review of individual job performance and review of schedule adherence and provide specific measures for performance evaluation. NEI agreed to consider this issue further.

### **3. Ending Notes**

At the conclusion of the meeting participants identified the following future actions:

- The NRC staff will discuss the outstanding guidance issues and provide a feedback to NEI

- NEI will modify the guidance document and submit a revised version to NRC about two weeks after receipt of staff's comments

**February 21, 2008, Public Meeting to Discuss Implementation Guidance for Subpart I to 10 CFR Part 26**

Attendance List

<b>NAME</b>	<b>AFFILIATION</b>
Valerie Barnes	NRC
Greg Boerschig	Exelon
Ed Brennan	Dominion
Fred Brown	NRC
John Collier	ICF
David Desaulniers	NRC
David Diec	NRC
Peter Fowler	Duke Energy
Mike Franovich	NRC
James Gallman	Luminant
Niav Hughes	NRC
Jose Ibarra	NRC
Yavor Ivanchev	NRC
Kevin Kingsley	Entergy
Ted Koser	STARS
John Kramer	NRC
Al Lindsay	Duke Energy
Kamishan Martin	NRC
Robert McNiel	STPNOC
John Monninger	NRC
Amanda Nerret	NRC
Todd Newkirk	IBEW
Phil O'Malley	Constellation
J. Persensky	NRC
D. Raleigh	Scientech
Robin Ritzman	FirstEnergy
Jack Roe	NEI
Nancy Salgado	NRC
Georgia Schuh	ICF
Jamie Seitz	NMC
Russel Smith	NEI
Ted Vogt	Southern California Edison
Bob Waselus	SCE&G
Michelle Yun	Exelon