

March 19, 2012

MEMORANDUM TO: Shana R. Helton, Chief  
Rulemaking Branch  
Division of Policy and Rulemaking  
Office of Nuclear Reactor Regulation

FROM: Scott C. Sloan, Project Manager **/RA/**  
Rulemaking Branch  
Division of Policy and Rulemaking  
Office of Nuclear Reactor Regulation

SUBJECT: CATEGORY 2 PUBLIC MEETING TO DISCUSS THE PART 26  
SUBPART I (FATIGUE MANAGEMENT) PROPOSED  
RULEMAKING

On February 23, 2012, the Nuclear Regulatory Commission (NRC) held a public meeting in Rockville, Maryland, to discuss various topics of interest to the NRC and to stakeholders involved in the Part 26 Subpart I (Fatigue Management) proposed rulemaking. Stakeholders raised these discussion points in other previous engagements, including public meetings and petitions for rulemaking that are under consideration in this rule, and the NRC is specifically interested in stakeholders' safety concerns and proposed solutions.

The meeting was noticed on January 26, 2012. The notice is available electronically at the NRC Library at <http://www.nrc.gov/reading-rm/adams.html#web-based> ADAMS, where the public can access the text and image files of NRC's public documents in the NRC's Agencywide Document Access and Management System (ADAMS). The meeting notice can be found under Accession No. ML120260741.

The meeting participants included NRC staff, members of the nuclear power reactor community, contractors, and a member of the media. Enclosure 1 presents a summary of the meeting. A complete list of participants is provided in Enclosure 2. Enclosure 3 contains the meeting agenda.

Enclosure(s):  
As stated

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Public RidsNrrDpr SSloan SHelton Meeting Attendees

ADAMS Accession No: ML12072A047

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DATE	3/14/2012	3/19/2012

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## **Summary of February 23, 2012, Public Meeting to Discuss the Part 26, Subpart I (Fatigue Management) Proposed Rule**

On February 23, 2012, the Nuclear Regulatory Commission (NRC) held a public meeting in Rockville, Maryland, to discuss various topics of interest to the NRC and to stakeholders involved in the Part 26 Subpart I (Fatigue Management) proposed rulemaking. Stakeholders raised these discussion points in other previous engagements, including public meetings and petitions for rulemaking (PRMs) that are under consideration in this rule, and the NRC is specifically interested in stakeholders' safety concerns and proposed solutions.

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### **I. Opening Remarks and NRC Presentation**

The public meeting began with brief opening remarks followed by a presentation by the NRC staff describing the NRC's perspectives on the topics of interest. The NRC staff informed stakeholders that the proposed rule schedule has been extended for approximately 15 months, based on stakeholder feedback received at the December 12, 2011, public meeting. This extension will allow for incorporation of lessons learned from industry's implementation of the 2011 rule that provided a voluntary alternative to the Minimum Days Off (MDO) provisions of Part 26, Subpart I. The NRC staff's presentation is publicly available under ADAMS accession number ML12058A074.

### **II. Nuclear Energy Institute (NEI) Presentation**

NEI distributed a three slide presentation, from which they responded to the specific topics of interest listed on the meeting notice. The objective of the presentation was to explain to the NRC staff which concerns from PRM-26-5 remain as concerns. NEI submitted PRM-26-5 on September 3, 2010, illustrating the organization's disagreement with a number of provisions within Part 26 Subpart I. To resolve the primary concern identified in the PRM, the NRC undertook an accelerated rulemaking with a voluntary alternative to the MDO provisions. The NEI presentation is publicly available under ADAMS accession number ML12058A072.

#### **A. Work Hour Exception for Force-on-Force Exercises**

NEI explained that the work hour control exception for Force-on-Force (FOF) exercises remains a concern. In PRM-26-5, NEI had proposed to eliminate the exception for NRC-evaluated FOF exercises because they were also requesting that the MDO provisions be eliminated. However, since the MDO provisions have not been eliminated, NEI explained that the exception for the NRC-evaluated FOF exercises needs to remain. NEI also stated that the exception needs to be expanded to apply to all FOF exercises required by the NRC. A security manager from Palo Verde explained the need for the work hour exception to apply to the annual full-scale exercises prescribed in the NRC's Regulatory Guide (RG) 5.75, due to the number of personnel involved with the exercises.

ENCLOSURE

The NRC staff was particularly concerned with the frequency that this exception would be used and with the number of people necessary for the drills. NEI explained that, while specific numbers vary from plant to plant, facilities will have anywhere from three to six shifts of security personnel, each requiring a full scale annual FOF exercise to fulfill the guidance of RG 5.75. When conducting an exercise for one shift, facilities will use personnel from other shifts to serve as controllers and the adversarial force. The total number of security personnel on site during a full scale exercise is usually approximately 400% of the on-shift security force. Some facilities use personnel that are not covered by the work hour controls of Subpart I, but many industry representatives expressed a hesitation to do so due to the desire for experienced security personnel. The NRC staff asked for specific details regarding which events NEI would include in this exception. NEI responded that they would like to include all full scale exercises and some smaller training events and academy drills. NEI stated that they would work to develop a definition of the scope and frequency of activities for their requested exception.

The NRC staff also expressed concern that the intent of the work hour controls would not be fulfilled if the exception for FOF exercises were included in the rule. A representative from the NRC's Office of Nuclear Security and Incident Response (NSIR) stated that the goal of the regulation was to manage fatigue, but this exception seems to be so extensive that the security personnel would not be getting sufficient time off to manage fatigue. An industry representative from Dominion stated that the exception would help to normalize the schedules of security officers, which he thinks is one of the most effective means of managing fatigue.

The NRC staff questioned the industry representatives about why these regularly scheduled FOF exercises could not be accounted for in the security force's long term training plan without the need for a work hour exception. The industry representatives explained that the FOF exercises were but one part of the security force's training regimen, and these exercises present unique work hour challenges because of the sheer number of personnel required to run them effectively. An NSIR representative asked if the industry had evaluated whether the MDO alternative would be a viable solution to their concerns, and the industry reported that they had not.

## **B. Changing the Definition of "Unit Outage"**

NEI then moved on to its next topic of concern – changing the definition in Title 10 of the *Code of Federal Regulations* (10 CFR) § 26.5 from "unit outage" to "site outage." NEI explained that there were 2 parts to this request: 1) allow all covered persons at multi-unit sites to operate under outage work hour controls rules, regardless of whether they are working on the operating unit or on the unit that is in an outage; 2) instead of an outage lasting "from breaker to breaker," allow outage work hour control rules to take effect one week prior to disconnecting the unit from the grid until the unit has returned to 75% reactor power. NEI stated that although they were requesting that the entrance and exit points for outages change, they are not requesting that the NRC extend the current 60 day allowance for outage work hour controls.

Speaking to the issue of "unit outage" versus "site outage," a representative of the Professional Reactor Operator Society, which submitted PRM-26-3 seeking a similar change to the definition of "unit outage," explained that the current work hour rules force licensees to split personnel between outage and operating units at multi-unit sites. He explained that this personnel split is not part of the outage routine as it existed prior to the 2008 Part 26 revision, and the current

rules limit staffing flexibility. Other industry representatives stated that the work hour control rules are limiting the experience in common control rooms of multi-unit sites because they prevent personnel from shifting between working on the operating unit and the unit experiencing the outage. Industry representatives also explained that the rules affect teamwork and communication in the control room, because the work hours for personnel working on the operating plant are much more restricted than those working on the outage unit. The NRC staff clarified that the only personnel affected by the current rules are those that are the minimum shift complement in the control room for the operating reactor, and that everyone else on site is permitted to operate under outage work hour controls.

Regarding the issue of when the outage begins and ends, an NEI representative explained that the week prior to opening the breaker is when many preparation activities take place. Industry representatives stated that the week prior is when they conduct “just in time” training for plant employees, vendors, and contractors. An industry security representative stated that security officers are heavily impacted the week prior to opening the breaker because that is the time that vast quantities of material and visiting personnel arrive on site, requiring inspection and badging, as appropriate. In addition, industry representatives explained that after the breaker is closed following outage activities, a large amount of work and testing remains. The request to extend the outage definition to include up to 75% reactor power would allow greater flexibility for retesting equipment modified during the outage.

The NRC staff asked specifically if there were activities that were not being conducted, or that were not being conducted thoroughly, before or after the outage that would indicate a safety impact caused by the current Subpart I work hour controls. Industry representatives stressed that all necessary activities were being conducted and that no shortcuts were being taken, but changing the definition would give licensees greater flexibility going into and coming out of an outage. Industry officials again pointed out that, regardless of if or how the NRC changes when an outage begins or ends, the industry is not seeking an extension to the 60 day allowance for operating under outage work hour controls. When NRC staff stated that they had a difficult time understanding the safety impact of the current work hour controls, the industry representatives stated that they would work on a revised definition for the outage entry and exit points as well as a refined basis for their request.

### **C. Shift Turnover Concerns**

NEI stated that recent NRC inspections have illustrated an unintended consequence stemming from the inconsistent duration of shift turnovers. The industry’s stated position is that sometimes shift turnover will last 15 minutes, and sometimes it will last 45 minutes or more. However, shift turnover lasts approximately 30 minutes (on average), and variations from that duration will average out over time. Therefore, industry representatives stated that they have had their workers enter their work time into the work hour tracking software as beginning 30 minutes after shift turnover begins, regardless of the actual start time. NRC inspectors have stated that licensees are not adequately tracking their time because the time in the work hour tracking software does not match the actual time the worker relieved the watch. The industry stated that this difference in philosophy is compounded by the fact that the NRC has issued the response to a frequently asked question (FAQ) that states the NRC considers a watch turnover lasting over 30 minutes in duration to be excessive. The industry requests that the NRC change the definition of watch turnover to account for the variability in duration. The NRC

acknowledged that having an adequate shift turnover positively impacts safety and more work should be done to provide language that ensures the ability to conduct an adequate shift turnover.

#### **D. Incidental Duties**

NEI restated its request from PRM-26-5 to remove the word “unscheduled” from § 26.205(b)(5), such that any work functions performed off-site lasting less than 30 minutes in duration may be excluded from the calculation of an individual’s work hours. The industry stated that the word “unscheduled” prevents personnel from asking on-shift personnel to contact them at home to provide an update of work status. The NRC stated that the word “unscheduled” was included in the original rule language for the sole purpose of preventing regular, short-term work activities from breaking up rest periods necessary for proper fatigue management. The NRC further stated that, while the agency does not want to prevent plant personnel from taking ownership of issues and ensuring continuity between shifts, it is critical to provide regular, non-interrupted rest periods, and removing the word “unscheduled” provides licensees an opportunity to regularly schedule short-duration work activities during employees’ off-duty periods.

#### **E. Work Hour Exception for Plant Emergencies**

NEI explained that the work hour exception for plant emergencies works well during the actual emergency. However, once a licensee has declared that the emergency situation no longer exists and declares that the plant is no longer in an emergency condition (therefore ending the current work hour exception), additional personnel are still required to be on site to complete emergency deactivation activities. NEI is requesting that the work hour exception be extended so that the hours expended in deactivation activities are excluded from the calculation of those individuals’ work hours.

The NRC staff explained that an effective rule exception must have clearly defined, enforceable criteria that promote safety and prevent abuse. The NRC stated that emergency plans and implementing procedures vary significantly from site to site, and developing language that would fit every situation would be challenging. The entry and exit criteria for the current exception are well defined as when the licensee enters and exits an emergency condition. The NRC recommended that the industry representatives develop proposed language to include the personnel needing an extended exception. The NRC will review and evaluate the industry’s proposal.

#### **F. Work Hour Exception for Natural Events Other Than Hurricanes**

NEI explained that the current enforcement guidance allowing licensees to sequester staff prior to the imminent arrival of hurricanes is working well. However, the industry sees a benefit to extending the work hour exception to other natural events. NEI stated that many other natural events (i.e. major winter storms, flooding, tornadoes, etc.) prevent plant personnel from safely accessing the plant site, and many licensees try to be proactive whenever possible and sequester staff on site to ensure a sufficient work force is available to safely continue plant operations. Under the current work hour controls, licensee management must prepare work hour waivers for personnel being sequestered prior to, during, and after natural events other than hurricanes. Industry representatives commented that this onerous waiver requirement,

which is permitted at licensee management discretion, distracts licensee management from what should be the priority of preparing the plant for hazardous weather.

The NRC staff stated that the difficulty with extending this work hour exception is determining the criteria to use for entry to and exit from the exception. Regarding hurricanes, the NRC relies on the independent judgment and forecasts of the National Oceanic and Atmospheric Administration to determine which facilities may use, and when they enter and exit from, the current enforcement discretion. Further, most licensees have emergency class entrance criteria related to high winds, which provides a codified work hour exception. Additionally, once a hurricane passes a facility, work can immediately begin to restore employee access to the plant site. Other natural events do not share the same traits leading to long-term (i.e., days), reliable forecasts, and the end of the event is typically not as apparent as it is with a hurricane.

The NRC staff expressed interest in hearing the industry's feedback regarding entry and exit criteria for an expanded work hour exception for natural events. The industry stated that the decision to sequester staff, and therefore invoke the work hour exception, should reside solely with senior licensee management. As justification, the industry stated that senior licensee management is able to invoke work hour waivers under the current work hour controls, and there has been no evidence of abuse of this provision. An industry representative also proposed making the invocation of this exception a reportable event under § 50.72, aiding in NRC's tracking of the entry and exit points of the exception. The NRC expressed hesitation for allowing licensees to determine when to invoke a work hour control exception, citing the potential for abuse. The NRC proposed approving licensee procedures which state the criteria that senior licensee management would use to declare entrance to and exit from an expanded exception, and enforcing those criteria by means of a license condition. Industry representatives showed no interest in that solution. Industry representatives agreed to consider the NRC's perspectives on the issue and to discuss the issue again at the next public meeting.

#### **G. Definition of "Quality Control/Quality Verification (QC/QV) Personnel"**

NEI stated that 80-90% of nuclear power plants have a small staff of QC/QV personnel that are supplemented by maintenance workers. However, some plants have larger QC/QV-dedicated organizations, and some plants solely use maintenance personnel to fulfill the QC/QV duties. NEI stated that internal conversations have not led to a consensus definition of QC/QV personnel, but that they will continue to work. The hardest part of the definition revolves around quality personnel that conduct preliminary receipt inspections of safety related material. The work locations, hours, and duties of those personnel vary rapidly from site to site, therefore it is difficult to determine a fitting definition. The NRC stated that similar internal conversations had led to similar sticking points with the definition, but the NRC will continue to work on the definition and discuss developments at future public meetings.

#### **H. Guidance Document Development**

The NRC asked for stakeholders' feedback regarding the best way to fulfill the Commission's direction to concurrently publish the Part 26 Subpart I proposed rule and the draft guidance documents. NEI representatives stated that their preference would be to develop the guidance first, and then have the NRC write the rule language around the guidance. NEI stated that this model was similar to the current post-Fukushima rulemaking on station blackout. NEI also

stated that the industry would prefer to write the guidance for the rule, regardless of when the guidance is written relative to the rule, and to have the NRC review and endorse the guidance via a Regulatory Guide.

#### **I. Miscellaneous Items**

NEI stated that they do not understand the NRC's requirement that all covered site personnel must either operate under the MDO provisions of the 2008 rule or the voluntary alternative provided in the 2011 rule. Industry representatives suggested a pilot period during which one or two divisions (i.e. security, maintenance, etc.) would implement the alternative to determine the best way to go forward. The NRC stated that the "all-or-nothing" approach was intentionally written in the 2011 rule to prevent licensees from choosing to use different rules for different divisions so that the only objective achieved would be the maximum amount of hours worked. In addition, different sets of rules on one site present significant inspection challenges for the NRC.

The NRC staff asked NEI to look into how using the voluntary MDO alternative would alleviate the industry's concerns with FOF exercises without needing an expanded work hour exception. NEI agreed to look into the issue and communicate with the NRC on any developments.

#### **III. Next Steps**

The NRC staff encouraged stakeholders to provide additional comments to the meeting contacts. As next steps, the staff plans to continue internal discussions within the scope of the rule to develop rule language. The staff also explained that another public meeting will be held in the near future to continue the discussion of industry concerns and to discuss the developments stemming from the discussions in this public meeting.

**February 23, 2012, Public Meeting to Discuss the Part 26 Subpart I (Fatigue Management)  
Proposed Rule**

Attendance List

<b>NAME</b>	<b>AFFILIATION</b>
Jim Wheeler	Dominion
David Gullo	Exelon
Peter Cringan	Constellation
Thomas Perry	SCE&G
Bill Phillips	IBEW Local 15
Nick DiPietro	First Energy
Bill Freebairn	Platts/Nucleonics Week
Mike Phillips	Duke Energy
Scott Bauer	Nuclear Energy Institute
Christy Nunez	Palo Verde
Randy Bramlett	Palo Verde
Jack Heyer	IBEW
Kevin Kingsley	Entergy
Dave Sergent	IBEW Local 15
Dave Mullen	IBEW
Tom Miller	First Energy
Howard Benowitz	NRC
Doug Huyck	NRC
Will Smith	NRC
Tara Inverso	NRC
Undine Shoop	NRC
Joe Gitter	NRC
Kamishan Martin	NRC
Scott Sloan	NRC
Robert Hammons*	Energy-Northwest
Sheila Koza*	Fluor
Shayne Curtis*	Xcel Energy
Peter Defilippi*	Westinghouse
Jeff Hatley*	Pacific Gas & Electric
Pam Black*	Wolf Creek
William Ryan*	Pacific Gas & Electric
Jessica Jensen*	Xcel Energy
Lee Marbella*	PSEG
Erik Erb*	Constellation
Mike Kunzwiler*	Constellation
Robert Meyer*	Professional Nuclear Operators Society

\*Participated via Webinar/Conference Call

AGENDA FOR THE FEBRUARY 23, 2012, PUBLIC MEETING  
TO DISCUSS THE PART 26 SUBPART I (FATIGUE MANAGEMENT) PROPOSED RULE  
9:30 A.M. – 3:00 P.M.

- PURPOSE:** To discuss six specific topics of interest to the NRC and stakeholders:
- The need for, and safety issues related to, expanding exemptions for work hour controls to include other natural events (i.e. major winter storms, floods, etc.)
  - The need for, and safety issues related to, expanding exemptions for work hour controls to include non-NRC evaluated Force-on-Force exercises
  - The need for, and safety issues related to, changing the definition of “unit outage” in 10 CFR 26.5
  - Stakeholder concerns that have been resolved via recent regulatory actions
  - The process to ensure that the issuance of draft guidance documents coincides with the issuance of the proposed rule
  - The definition of “QC/QV Personnel”

The NRC is seeking stakeholder feedback on the above topics along with proposed short- and long-term solutions.

<b>Time</b>	<b>Topic</b>	<b>Led By</b>
9:30 – 9:40	Opening Remarks and Introductions	NRC
9:40 – 10:00	NRC Perspectives	NRC
10:00 – 11:30	Stakeholder Perspectives	Stakeholders
11:30 – 1:00	Lunch	
1:00 – 2:15	Open Discussion	NRC
2:15 – 2:45	Public Interaction	NRC
2:45 – 3:00	Wrap Up/Adjourn	NRC