

RULEMAKING ISSUE INFORMATION

January 4, 2011

SECY-11-0003

FOR: The Commissioners

FROM: R. W. Borchardt
Executive Director for Operations

SUBJECT: STATUS OF ENFORCEMENT DISCRETION REQUEST AND
RULEMAKING ACTIVITIES RELATED TO 10 CFR PART 26,
SUBPART I, "MANAGING FATIGUE"

PURPOSE:

To provide the Commission with a status update on current rulemaking activities pertaining to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 26, "Fitness for Duty Programs," Subpart I, "Managing Fatigue," and to discuss the staff's ongoing evaluation of the industry's request for enforcement discretion.

SUMMARY:

The U.S. Nuclear Regulatory Commission (NRC) has received three petitions for rulemaking (PRMs) related to 10 CFR Part 26, Subpart I, within the past 15 months. In addition to the PRMs, the Nuclear Energy Institute (NEI) submitted a request for enforcement discretion regarding the minimum days off (MDO) provisions of Subpart I. Separate from the staff's review of these activities, the staff is planning to send to the Commission a proposed rulemaking to include quality control/quality verification (QC/QV) personnel within the maintenance work-hour control provisions of 10 CFR Part 26. This paper details the staff's plan to bundle, into the ongoing QC/QV rulemaking, the three PRMs and any aspects of the potential enforcement discretion that should be reflected in the rulemaking framework.

CONTACTS: Mary Ann Ashley, NRR/DIRS
(301) 415-1073

Tara Inverso, NRR/DPR
(301) 415-1024

With regard to the NEI enforcement discretion request, this paper discusses the outcome of a public meeting held on November 18, 2010, in which industry stakeholders provided additional information to support the request. The staff intends to follow this paper with a subsequent paper with recommendations for the Commission on a response to NEI's request.

BACKGROUND:

The staff currently has several requests from stakeholders to revise the fatigue management requirements covered by 10 CFR Part 26, Subpart I, "Managing Fatigue."

Mr. Robert N. Meyer, on behalf of the Professional Reactor Operator Society, submitted PRM-26-3 on October 16, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML092960440). It requests that (1) the definition of "unit outage" be changed to "site outage" and (2) "site outage" be defined to read "up to one week prior to disconnecting the reactor unit from the grid and up to 75 percent turbine power following reconnection to the grid." The comment period associated with this PRM closed on February 10, 2010. The NRC received four comment letters, all in general support of the PRM.

NEI submitted PRM-26-5 on September 3, 2010 (ADAMS Accession No. ML102590440). The stated purpose of the petition is to address "unintended consequences of the rule that have diminished the safety and security benefit the regulation was intended to achieve." The petition requests that the NRC replace the MDO requirements in 10 CFR Part 26, Subpart I, with a performance-based objective and that the annual review of actual hours worked be amended to be required quarterly. The petition also requests that the NRC address the suspension of work-hour controls as a result of acts of nature or disasters that restrict accessibility of relief personnel to the site. Additionally, the petition requests that the exception for plant emergencies at 10 CFR 26.207(d) be modified to apply as long as emergency facilities are activated in accordance with the licensee's emergency plan or emergency plan implementing procedures.

Separate from PRM-26-5, on September 23, 2010, NEI submitted a request for enforcement discretion regarding the MDO provisions of 10 CFR Part 26 (ADAMS Accession No. ML102710208). The request reiterates NEI's position that the regulations governing fatigue management impede "many safety-beneficial practices at plant sites, adversely [impact] the quality of life of covered workers, and [result] in conflicts between rule requirements and represented bargaining unit agreements." The letter requests that the NRC "exercise enforcement discretion from the [MDO] provisions of the rule" until the final disposition of PRM-26-5.

Mr. Erik Erb, a nuclear security officer at the Nine Mile Point Nuclear Station, submitted PRM-26-6 on August 17, 2010 (ADAMS Accession No. ML102630127). This petition requests that the NRC amend 10 CFR Part 26, Subpart I, to decrease the MDO requirement for security officers working 12-hour shifts from an average of 3 days per week to an average of 2.5 or 2 days per week. This petition was endorsed by 91 security officers.

Concurrent with the staff's review of these submittals, the staff has been pursuing a proposed rulemaking to include QC/QV workers under the same Subpart I provisions as individuals who

perform maintenance functions as specified in 10 CFR 26.4(a)(4). The regulatory basis for the QC/QV rulemaking is complete, and this rulemaking effort has entered into the proposed rule development stage.

Under the current schedule for this rulemaking, the staff would provide the proposed rule to the Executive Director for Operations by June 30, 2011 (WITS item number 200700281).

Additionally, the staff has been assessing unintended consequences of the current Part 26 rule consistent with the Staff Requirements Memorandum (SRM)-SECY-09-0183, "Proposed Modification for Including Quality Control and Quality Verification Personnel within the Scope of Subpart I of 10 CFR Part 26," dated June 1, 2010 (ADAMS Accession No. ML101520654). In this SRM, the Commission directed the staff to "engage stakeholders and review the practical application of Part 26 subpart I including the advent of any unintended consequences that might undermine the purpose of the rule."

DISCUSSION:

Enforcement Discretion Request:

The September 23, 2010, NEI letter requesting enforcement discretion from certain requirements of 10 CFR Part 26 parallels NEI's rulemaking petition (PRM-26-5). The rulemaking petition seeks to amend 10 CFR Part 26, Subpart I, by replacing the rule's MDO requirements with a performance objective for managing cumulative fatigue. The industry's proposed performance objective is to maintain work hours at or below 54 hours per week, averaged over a quarter. Similarly, the request for enforcement discretion asks that licensees be granted enforcement discretion for not meeting the MDO requirements detailed in 10 CFR 26.205(d)(3) provided that they implement the performance objective proposed in the rulemaking petition. The request for enforcement discretion references the rationale for change described in the petition as the basis for the request and asks that the enforcement discretion remain in place until the final disposition of the petition for rulemaking.

In evaluating the NEI-proposed approach for providing interim relief from MDO requirements through enforcement discretion, the staff considered the stated performance objectives of the existing rule, which include providing reasonable assurance that the effects of fatigue and degraded alertness on individuals' abilities to safely and competently perform their duties are managed commensurate with maintaining public health and safety. A review of the Statement of Considerations (SOC) for the 2008 final rule, which described the rationale and technical bases concerning the safety importance of managing fatigue, indicates that the underlying basis of the rule remains valid under the current approach and that addressing the fatigue of workers in safety- and security-critical positions through regulation continues to be consistent with practices in other countries and other industries in the United States. (See 73 FR 16978-16987 for an overview of the Commission's considerations for including worker fatigue management provisions in the rule.)

Studies cited in the SOC as well as subsequent research results indicate that shift work disrupts natural sleep and wake patterns and affects the quality and duration of sleep leading to a decline in cognitive and motor functioning. The term 'cumulative fatigue' refers to these degradations in human performance resulting from consecutive days of restricted or poor quality sleep. The existing rule mitigates cumulative fatigue by requiring a minimum number of days off

to ensure that individuals have opportunities for recovery sleep. Recovery sleep is important because the research shows that when time for sleep is decreased even by small amounts (e.g., 1 to 1.5 hours less sleep per night), impairment becomes increasingly evident. Even small nightly sleep deficits allowed to accumulate over consecutive nights can cause individuals to show levels of impairment that are equal to those resulting from one or two nights of total sleep deprivation. Accordingly, the staff will seek to ensure that its recommendation to the Commission in response to the interim relief being requested by industry continues to focus on the prevention or mitigation of cumulative fatigue as a fundamental component of fatigue management for nuclear power plant workers.

The staff held a public meeting on November 18, 2010, to gain a better understanding of the following:

- Industry's positions of how the various examples of unintended consequences purportedly arising from the MDO requirements as described in NEI's request for enforcement discretion are tied to safety or security;
- How the MDO requirements brought about the conditions described in the examples and the perceived unintended consequences;
- The extent of the stated conditions throughout the industry; and
- How the requested enforcement discretion from the MDO requirements would mitigate the stated adverse consequences while maintaining the objective of managing cumulative fatigue.

During the meeting, industry representatives stated that implementation of MDO requirements has achieved its goal of ensuring that workers are provided with adequate rest periods. They further noted that there have been undesirable consequences, in particular the industry's ability to continue practices that licensees consider beneficial, such as promoting consistency among work crews and the continued development of licensee staff. The industry further stated that the hours available for work are sufficient in almost all cases; however, they believe there should be more flexibility in how the time can be used. As a result of the meeting, the staff better understands why the industry views the existing rule as complex and lacking flexibility.

After considering the information gained from the public meeting, the staff has determined that providing interim flexibility through enforcement discretion or some other mechanism may be appropriate while the staff evaluates the NEI petition for rulemaking. However, adopting the industry's proposal for enforcement discretion presents three significant issues. First, because the rulemaking petition and the request for enforcement discretion ask for the same outcome, adopting that approach for enforcement discretion could be perceived as the NRC predetermining the outcome of the related ongoing rulemaking activity. Second, adopting the industry's proposed approach of replacing the MDO requirements with a performance-based objective of a quarterly average of 54 hours per week would allow too many successive weeks of extended work hours to support the prevention, detection and mitigation of cumulative fatigue. Third, the industry's proposed approach does not include a means for managing cumulative fatigue during outage periods.

The staff is developing an alternate interim regulatory approach that will be provided to the Commission for consideration. As part of the development of the approach, the staff will hold a second public meeting on January 6, 2011, for an interactive discussion with affected

stakeholders on the details of the staff proposal for enforcement discretion. Specifically, the staff will discuss a framework that would ensure consistency with the bases and objectives of 10 CFR Part 26 and would provide the simplicity and flexibility requested by the industry. To facilitate discussion at the public meeting, the specifics of the framework were provided to industry and include:

- Eliminating the current MDO requirements during normal operations only.
- Establishing an average 54-hour-per-week limit based on a maximum 6-week period rather than on a 13-week period as proposed by the industry. A shorter cycle is preferable because it will prevent an excessive number of long workweeks and remains consistent with the averaging duration and technical basis of the rule.
- Establishing a complementary process or control to ensure cumulative fatigue management over longer durations, such as quarters as proposed by NEI. However, in contrast to the 54 hour per week quarterly performance objective proposed by NEI, the staff's objective is to establish a graded approach that will allow longer work hours for short periods of time while also ensuring that working long hours does not undermine fatigue management by becoming routine.
- Retaining the current simple MDO requirements for outages (i.e., a fixed number of days off in a 7- or 15-day period) to maintain basic cumulative fatigue controls during outages. This differs from the industry's request which eliminates cumulative fatigue controls for both normal operations and outages and would establish a performance objective applicable only for normal operations.
- Retaining the restriction that the reduced days-off requirements for outages be limited to a period of not more than 60 days. This approach recognizes that the reduced days-off requirements for outages do not mitigate cumulative fatigue for indefinite periods. The staff's approach retains a time limit on these reduced requirements rather than eliminating the restriction as proposed by the industry's request.

The approach the staff is developing addresses the fundamental concerns with the rule's flexibility and complexity that the industry raised in their enforcement discretion request and at the November public meeting. Additionally, the approach parallels the industry proposal by eliminating the MDO requirements during normal operations and focusing on total work hours. However, the staff is addressing several important considerations not addressed in the industry's proposal. Specifically, the industry's request did not provide sufficient structure to minimize regulatory uncertainty because it does not establish clear and enforceable limits. Additionally, the industry has requested enforcement discretion from MDO requirements based solely on a performance objective. The staff believes that an approach which combines a defined limit on average hours worked with complementary longer term controls provides licensees with the flexibility they want to accommodate fluctuations in workload due to unanticipated conditions while establishing controls consistent with maintaining worker fitness for duty.

At the January 6 public meeting the staff will also discuss with stakeholders mechanisms for making changes to the existing requirements. The results of the January meeting will help ensure that implementation of the staff's proposed approach will not create a new set of unintended consequences.

On-going Monitoring of Rule Effectiveness:

The staff will continue to interact with licensees, monitor observed human performance trends and issues within the industry, and evaluate the licensee prepared reviews that are required by 10 CFR 26.205(e) as part of its on-going activities. The staff currently monitors industry human performance trends as documented by licensees in required reports, such as licensee event reports, and by the NRC inspection staff in inspection reports. These reports include aspects of human performance that may reflect the influences of fatigue (e.g., failure to follow a procedure, communication errors); however, they frequently lack sufficient information to identify fatigue as the underlying causal factor. The information in these reports also is not provided in 'real time' and lags, sometimes by months, due to the timing of reports and inspection cycles. Additionally, the most current available data may not be relevant for establishing a baseline against which future changes can be measured since it may contain inconsistent information from the initial implementation of the 2008 final rule. The staff will continue to seek and use information from other regulators, emerging science, and evolving industry performance to monitor the overall effectiveness of the rule and to indicate when changes may be needed.

Expansion of QC/QV Rulemaking To Include All Activities Related to Fatigue Management:

As discussed, the staff has a planned rulemaking effort, which is in the proposed rule phase, to extend the Subpart I work hour limits to QC/QV personnel. Because PRM-26-3, PRM-26-5, and PRM-26-6 all request changes to the regulations that govern fatigue management, the staff will consider the requests together. The staff believes that considering these PRMs and any associated public comments within the QC/QV rulemaking would be the most efficient use of agency resources. This consolidated action would enable the staff to make any appropriate regulatory framework revisions and then extend the revised framework to the QC/QV personnel to help ensure a seamless integration. The staff also notes that NEI included, verbatim, the requests of PRM-26-3 in PRM-26-5. As a practical matter, it is not possible to evaluate each PRM individually without prejudging the outcome of the other. Finally, the staff will address within this same rulemaking the unintended consequences (as identified by internal and external stakeholders, including those arising from the current MDO requirements) that resulted from the implementation of the 2008 final rule, and engage in an open rulemaking process to identify alternate methods of mitigating cumulative fatigue.

COMMITMENT:

Incorporating these rulemaking efforts into the planned QC/QV rulemaking will require a revision to the existing QC/QV schedule and resources. The staff expects to send the paper to the Commission in March 2011 with recommendations on a response to NEI's request. The staff will then submit the 10 CFR Part 26 proposed rulemaking to the Commission approximately 16 months after receipt of the SRM associated with this paper.

RESOURCES:

The following full-time equivalent and contractor support resources for the QC/QV rulemaking are included in the fiscal year (FY) 2011 President's Budget and for the Office of Nuclear Reactor Regulation (NRR), the Office of New Reactors (NRO), the Office of Nuclear Regulatory Research (RES), the Office of Administration (ADM), the Office of Information Services (OIS), and the Office of the General Counsel (OGC). FY 2012 and FY 2013 resource needs for the

QC/QV rulemaking, including those required for the expansion of work discussed in this paper, will be requested during the planning, budgeting, and performance management process.

The resources are included in the FY 2011 President's Budget and FY 2012 budget request as part of the Business Line: Operating Reactors; Product Line: Rulemaking: Product: Regulatory Infrastructure.

| Fiscal Year | Office | FTE |
|--------------------|---------------|-------------|
| 2011 | NRR | 1.8 |
| | RES | 0.25 |
| | NRO | 0.1 |
| | NSIR | 0.0 |
| | OGC | 0.1 |
| | ADM | 0.1 |
| | OIS | 0.1 |
| | Total | 2.45 |

COORDINATION:

The Office of the General Counsel reviewed this package and has no legal objection. The Chief Financial Officer has reviewed this Commission paper for resource implications and has no objection.

/RA Martin Virgilio for/

R. W. Borchardt
Executive Director
for Operations

needs for the QC/QV rulemaking, including those required for the expansion of work discussed in this paper, will be requested during the planning, budgeting, and performance management process.

The resources are included in the FY 2011 President's Budget and FY 2012 budget request as part of the Business Line: Operating Reactors; Product Line: Rulemaking: Product: Regulatory Infrastructure.

| Fiscal Year | Office | FTE |
|--------------------|---------------|-------------|
| 2011 | NRR | 1.8 |
| | RES | 0.25 |
| | NRO | 0.1 |
| | NSIR | 0.0 |
| | OGC | 0.1 |
| | ADM | 0.1 |
| | OIS | 0.1 |
| | Total | 2.45 |

COORDINATION:

The Office of the General Counsel reviewed this package and has no legal objection. The Chief Financial Officer has reviewed this Commission paper for resource implications and has no objection.

/RA Martin Virgilio for/

R. W. Borchardt
Executive Director
for Operations

EDATS: NRR-2010-0110

ADAMS Accession No: ML103420201

* Via E-mail

| | | | | |
|--------|------------------------|-------------------------------|-----------------------------|---------------------------|
| OFFICE | NRR/DPR/PRIB:PM | NRR/DIRS:TA* | TechEditor* | NRR/DPR/PRIB:BC |
| NAME | TInverso | MAshley | Kazariah-Kribbs | SHelton |
| DATE | 12/08/10 | 12/08/10 | 12/09/10 | 12/10/10 |
| OFFICE | NRR/DIRS/IHBP:BC* | NRR/DPR:D | NRR/DIRS:D | ADM/DAS/RAD:BC* |
| NAME | UShoop (FBrown for) | TMcGinty | FBrown | CBladey |
| DATE | 12/13/10 | 12/10/10 | 12/09/10 | 12/20/10 |
| OFFICE | PMDA:D | NSIR:D | NRO:D | RES:D |
| NAME | MGivvines | JWiggins | MJohnson (JTappert for) | BSheron (CLui for) |
| DATE | 12/20/10 | 12/20/10 | 12/20/10 | 12/21/10 |
| OFFICE | OE:D* | OCFO:D* | OGC/GCHEA/MLE* | OGC/GCLR/RMR* |
| NAME | RZimmerman | JDyer (JGolder for) | CScott (MLemoncelli for) | BJones (HBenowitz for) |
| DATE | 12/20/10 | 12/22/10 | 12/27/10 | 12/27/10 |
| OFFICE | NRR:D | EDO | | |
| NAME | ELeeds (BBoger for) | RBorchardt (MVirgilio for) | | |
| DATE | 12/20/2010 | 01/04/2011 | | |