

# **10 CFR Part 26 Subpart I**

## **“Managing Fatigue”**

### **Public Meeting**

**U.S. Nuclear Regulatory Commission Headquarters**  
**December 4, 2013**

# Welcome to NRC Headquarters

IN CASE OF FIRE USE STAIRWAY  
 IN CASE OF EMERGENCY CALL 911



- LEGEND**
- PRIMARY EVACUATION ROUTE
  - SECONDARY EVACUATION ROUTE
  - EGRESS STAIR
  - FIRE ALARM PULL
  - FIRE EXTINGUISHER CABINET
  - AUTOMATED EXTERNAL DEFIBRILLATOR
  - HOSE VALVE CABINET
  - EVACUATION PLAN

**FLOOR 8  
 THREE WHITE FLINT NORTH**  
 11601 LANDSDOWN STREET NORTH BETHESDA, MD 20852



## Meeting Objective

- To discuss preliminary proposed rule language released by the NRC on or about November 22, 2013, and draft guidance material submitted by the Nuclear Energy Institute on February 13, 2013.

# Agenda

1:00 p.m. – 1:05 p.m.	Opening Remarks	NRC
1:05 p.m. – 1:30 p.m.	Discussion of Preliminary Proposed Rule Language	NRC
1:30 p.m. – 3:45 p.m.	Discussion of Draft Guidance Material	NRC
3:45 p.m. – 3:55 p.m.	Public Participation	
3:55 p.m. – 4:00 p.m.	Closing Remarks	NRC

## Background

- Rulemaking effort began in 2011
- Today marks the 10<sup>th</sup> public meeting
  - Subjecting QC/QV workers to work hour controls
  - Licensee sequestration of personnel during severe weather events
  - Unit outage definition
  - Draft NEI 06-11 development
  - Travel time accounting
  - PRMs 26-3, 26-5, 26-6



# Preliminary Proposed Rule Language

## § 26.27 Written policy and procedures

\* \* \* \* \*

(b)(4)(ii) during ~~the period of any tour of duty~~ any work period;

(5) Convey that abstinence from alcohol for the 5 hours preceding any scheduled ~~tour of duty~~ work period is considered to be a minimum that is necessary, but may not be sufficient, to ensure that the individual is fit for duty;

\* \* \* \* \*

(c)(3) Describe the process that the licensee or other entity will use to ensure that individuals who are called in to perform an unscheduled ~~working tour~~ work period are fit for duty. At a minimum –

(i) The procedure must require the individual who is called in to state whether the individual considers himself or herself fit for duty and whether he or she has consumed alcohol within the ~~pre-duty~~ abstinence period stated in the policy;

# Preliminary Proposed Rule Language (cont.)

- (ii) If the individual has consumed alcohol within this period and the individual is called in for an unscheduled ~~working tour-work period~~, including an unscheduled ~~working tour-work period~~ to respond to an emergency, the procedure must –
- \* \* \*
- (D) State that consumption of alcohol during the 5-hour abstinence period required in paragraph (b)(4)(i) of this section may not by itself preclude a licensee or other entity from using individuals who are needed to respond to an emergency. However, if the determination of fitness indicates that an individual who has been called in for an unscheduled ~~working tour-work period~~ to respond to an emergency may be impaired, the procedure must require the establishment of controls and conditions under which the individual who has been called in can perform work, if necessary; and

# Preliminary Proposed Rule Language (cont.)

(E) State that no sanctions may be imposed on an individual who is called in to perform any unscheduled ~~working-tour-work period~~ for having consumed alcohol within the ~~pre-duty~~-abstinence period stated in the policy.

\* \* \* \* \*

## § 26.203 General provisions.

\* \* \* \* \*

(b)(1) Describe the process to be followed when any individual identified in § 26.4(a) through (c) makes a self-declaration that he or she is not fit to safely and competently perform his or her duties for any part of a ~~working-tour-work period~~ as a result of fatigue. The procedure must –

\* \* \* \* \*



# Preliminary Proposed Rule Language (cont.)

(c)(1) Knowledge of the contributors to worker fatigue, circadian variations in alertness and performance, indications and risk factors for common sleep disorders, **shiftwork strategies-strategies that shift workers can use to obtain adequate rest**, and the effective use of fatigue countermeasures; and

\* \* \* \* \*

# Preliminary Proposed Rule Language (cont.)

## § 26.205 Work hours.

\* \* \* \* \*

(b)(1) Licensees may exclude **from the calculation of an individual's work hours that portion of shift turnover that occurs outside an individual's work hours-shift**. Shift turnover includes only those activities that are necessary to transfer **safety or security responsibilities** between two or more individuals **information-or-responsibilities-between-working contiguous shifts**. Turnover activities may include, but are not limited to, discussions of the status of plant equipment, and the status of ongoing activities, such as extended tests of safety systems and components. Licensees may not exclude work hours worked during turnovers between individuals within a shift period due to rotations or relief within a shift. Activities that licensees may not exclude from work hours calculations also include, but are not limited to, shift holdovers to cover for late arrivals of incoming **shift members-personnel**; early arrivals of individuals for meetings, training, or pre-shift briefings for special evolutions; and holdovers for interviews needed for event investigations.

\* \* \* \* \*

# Preliminary Proposed Rule Language (cont.)

(c) *Work hours scheduling.* Licensees shall schedule the work hours of individuals who are subject to this section consistent with the objective of preventing impairment from fatigue due to the duration, frequency, or sequencing of **successive shifts-work periods.**

\* \* \*

(d)(2) Licensees shall ensure that individuals have, at a minimum, the rest breaks specified in this paragraph. For the purposes of this subpart, a break is defined as an interval of time that falls between successive work periods, during which the individual does not perform any duties for the licensee other than ~~one period of~~ shift turnover ~~at either the beginning or end of a shift but not both.~~ **The exclusion of turnover is limited to only those activities that cannot be performed within the individual's shift and are necessary to transfer safety or security responsibilities between two or more individuals working contiguous shifts.** Except as permitted in § 26.207, licensees shall ensure that individuals have, at a minimum –

(i) A 10-hour break between successive work periods or an 8-hour break between successive work periods when a break of less than 10 hours is necessary to accommodate a crew's scheduled transition between ~~work schedules or shifts-shift schedules;~~ and **schedules;** and

\* \* \*

# Preliminary Proposed Rule Language (cont.)

(3) Licensees shall either ensure that individuals have, at a minimum, the number of days off specified in this paragraph, or comply with the requirements for maximum average work hours in § 26.205(d)(7). For the purposes of this subpart, a day off is defined as a calendar day during which an individual does not start a work **shift-period**. For the purposes of calculating the average number of days off required in this paragraph, the duration of the shift cycle may not exceed 6 weeks.

\* \* \*

(7)(ii) For purposes of this **section-paragraph**, when an individual's work **shift-period** starts at the end of a calendar day and concludes during the next calendar day, the licensee shall either consider the hours worked during that entire **shift-work period** as if they were all worked on the day the **shift-work period** started, or attribute the hours to the calendar days on which the hours were actually worked.

\* \* \*



# Preliminary Proposed Rule Language (cont.)

## § 26.207 Waivers and exceptions.

\* \* \* \* \*

(b) *Force-on-force tactical exercises.* For the purposes of compliance with the minimum days off requirements of § 26.205(d)(3) or the maximum average work hours requirements of § 26.205(d)(7), licensees may exclude **shifts-work periods** worked by security personnel during the actual conduct of NRC-evaluated force-on-force tactical exercises when calculating the individual's number of days off or hours worked, as applicable.

\* \* \* \* \*

**§ 26.209 Self declarations under a waiver.** *[NRC note – changing section title only. No rule text changes.]*



- Organization and terminology improved
- A few guidelines appear inconsistent with rule requirements
  - Guidance revisions or exceptions in NRC endorsement of guidance would appear necessary in these cases
- Several opportunities to improve guidance identified
  - Staff comments to be provided

## Guidance Inconsistent with Rule

- Exclusions from work hour controls
  - Predictive maintenance (categorically) (p16)
  - Time to deactivate emergency facilities (p31)
  - Short duration, infrequent or irregular phone calls (p33)
  - Travel on worker's own time (p34)
- Inclusion as turnover
  - Donning and doffing of protective clothing and transitioning to a job site (categorically) (p36)

## Guidance Inconsistent with Rule (cont.)

- Minimum staffing on operating unit hours during an outage at a multi-unit site
  - Table in Section 6 differs from RG 5.73 (p19)
- Exception from minimum 10 hour break
  - rotating shifts transitioning to a new time of day (p38)
- For-cause fatigue assessments
  - Permitting 10-hour break in lieu of fatigue assessment (p77)

## Opportunities to Improve Guidance

- Provide overview of fatigue management and rule structure
- Reorganize/order concepts within some sections
- Reduce repetition of guidance where possible
- Provide additional guidance for topics where judgment is required
- Consider staff editorial comments to improve clarity and consistency

- Provide overview of fatigue management and rule structure
  - Draft NEI-06-11, Revision 2: “The regulatory approach to managing fatigue relies on two elements – limiting work periods (days and hours), and ensuring adequate time is allotted for breaks and days off.” (p4, p22)
  - NRC staff perspective - Major elements of fatigue management/rule
    - Schedule selection
    - Training
    - Behavioral Observation and Self-declaration
    - Work hour controls for acute and cumulative fatigue
    - Performance monitoring



## Opportunities to Improve Guidance (cont.)

- Reorganize/order concepts within some sections
- Section 6.2 – Work Hour Scheduling Requirements and Principles
  - List of considerations does not reflect an organizing framework to ensure a comprehensive and cohesive assessment
- Section 6.3
  - Non-intuitive sequencing of short-term and cumulative work hour controls
  - MDO (cumulative fatigue control) presented under 6.3.2.2., Ceiling Limits (short-term fatigue control)
- Section 13, Waivers and Section 15, Fatigue Assessments
  - Section 13 uses terminology (i.e., fatigue assessments) more appropriate to Section 15
  - Section 15 includes waiver assessments as fatigue assessments

## Opportunities to Improve Guidance (cont.)

- Reduce repetition of guidance where possible
  - Section 6 - Work Hour Controls, Section 7 – Counting Work Hours, and Section 9 – Application of MDO and MAWH
  - Section 6.2, Work Hour Scheduling and 7.1, Process for Evaluating a Schedule
- Provide additional guidance for topics where judgment is required
  - Section 6.2 – Work Hour Scheduling Requirements and Principles
  - Section 7.2 – Accounting of Work Hours - shift turnover
  - Section 15 – Fatigue Assessments – assessing acute fatigue, cumulative fatigue, and circadian variations in alertness

## Opportunities to Improve Guidance (cont.)

- Consider staff editorial comments to improve clarity and consistency
  - Conforming changes for consistency with current/proposed rule language
  - Proposed clarifications

## Next Steps

- Meeting summary distributed within 30 days
- NRC will deliver detailed comments by January 15, 2014
- Proposed date for next public meeting: Wednesday, February 5, 2014

## Questions?

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