



**INTERNATIONAL
BROTHERHOOD
OF ELECTRICAL
WORKERS.**

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OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

Mr. Luis A. Reyes
Executive Director for Operations
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Dear Mr. Reyes:

**Re: IBEW Comments on NRC Fitness for Duty Rule, 10CFR26-
Subpart I, Fatigue Management**

On behalf of the 750,000 members of the International Brotherhood of Electrical Workers (IBEW), I write to convey my further comments that I submitted December 27, 2005. The IBEW participated in the March 29, 2006, stakeholder meeting held by the Nuclear Regulatory Commission (NRC) and has considered further comments after listening to other stakeholders, IBEW members, and the NRC.

Upon review of my comments, the NRC staff will find that IBEW often agrees with the industry's April 27 written comments submitted by the Nuclear Energy Institute's (NEI) Senior Vice President and Chief Nuclear Officer Marvin Fertel in several areas. However, we have several key fundamental differences.

They are: 1) Subpart I *should apply to anyone* engaging in licensee duty inside the protected area and

2) while I agree a licensee should maintain the ability to schedule 6 days of 12-hour consecutive shifts for workers performing during a defined outage as the industry has suggested, IBEW supports *any worker* desiring a second consecutive day off during an outage to do so by properly requesting such without fear, or intimidation.

The NRC's proposed rule §26.25(a)1 clearly intends to subject all workers to a Fitness for Duty (FFD) program. In my opinion, Subpart I is an extension of the overall FFD program to 10CFR26. The NRC desires to exclude many workers from Subpart I, as explained in *Federal Register/Volume. 70, No. 165 page 50582, Section 26.199, Work Hour Controls, § 26.199(a)*. In 1990 certain IBEW local unions opposed this concept seeking to exclude clerical workers within the protected area from FFD testing as the aforementioned federal register citation indicates on page 50445. As the record indicates, the courts ruled against that request, keeping the NRC's FFD rule successful for applying the rule to everyone with unescorted access inside the protected area at a nuclear facility. It would not be proper for the NRC to be inconsistent on FFD rule philosophy by defining what work functions are important or not for fatigue management at a nuclear power plant. The NRC proposed rule as written, if implemented, will create inconsistency in the oversight of fatigue management. This would not achieve the goal the regulators are seeking for fatigue management. With the staff's current consideration to remove the complex collective-work-hour averaging provisions in the proposed rule, fatigue management rulemaking becomes prudent to apply as I have requested in Subpart I.

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An urgent concern that must be remedied to the proposed rule is the impact on staffing a qualified contractor workforce into facilities during refueling outages. In the event the NRC staff pursues the final language in Subpart I as written, the entire industry will be challenged with an acceleration of a shrinking skilled support staff. The proposed rule as written will cause long-term quality contractor support staffing complications by mandating a 48-hour break every 14 days during an outage. Other competing industries will have more favorable opportunities for these types of workers to seek employment. This will lead to a crisis situation for outage manning and degrade long-term stable, safe, and efficient work practices by the absence of these workers. Also, the required 48-hour break during outages is detrimental to night shift workers because it manifests a serious circadian disruption and a classic set-up for increased worker error.

IBEW appreciates the key component in the rule allowing individual workers to self-declare fatigue. This is a significant safeguard being enacted by the NRC. All stakeholders, workers, and the general public should applaud and fully support this provision.

Ultimately, if the current NRC philosophy of the proposed rulemaking for the affected workers prevails in Subpart I, the rule should be modified and limited to clearly define certain work tasks during normal plant operations. This would be applicable to those workers who spend the majority of their work engaged in full-time shift rotation assignments. IBEW believes this should limit the majority of fatigue rulemaking focus to traditional operations and security departments at licensee facilities, excluding all other classifications when appropriate. The current NRC proposed rule appears to assume most licensees work full craft support 24 hours/7 days per week. Recently, we have concluded that many of our local unions do not work a full compliment of craft crews during normal nuclear operations on a 24-hours/7-day basis. The rule does not fit evenly across licensee facilities of the nation's operating reactor fleet. Therefore, it is much more streamlined for rule implementation and, more importantly, sensible to support any work inside the protected area being subject to Subpart I as my rule recommendation reflects.

It is duly noted that the NRC's continuing process for this rulemaking has now recognized the need to allow the ability for individuals to work 7 consecutive days of 8-hour work shifts containing a 10-hour break between each shift. This allows several of our represented work groups to continue their long established shift rotation practices.

Reiterating my position submitted to the NRC December 27, 2005, the IBEW supports fatigue management requirements implemented in an appropriate way. IBEW appreciates the NRC staff's continued effort to develop an effective rule that addresses key concerns addressed by all stakeholders.

Sincerely yours,


Edwin D. Hill
International President

EDH:lb



**10CFR26 Subpart I Incorporated Changes into Rule
Combined recommended Changes from December 22, 2005 and August 3, 2006**

Sec. 26.195 Applicability.

The requirements in this subpart apply only to the licensees and other entities identified in Sec. 26.3(a) and (d).

Sec. 26.197 General provisions.

- (a) Policy. Licensees shall establish a policy for the management of fatigue and incorporate it into the written policy required in Sec.26.27(b).
- (b) Procedures. In addition to the procedures required in Sec. 26.27(c), licensees shall develop, implement, and maintain procedures that—
 - (1) Describe the process to be followed when any individual who is subject to an FFD program under Sec. 26.25(a)(1) or (2) 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 as a result of fatigue. The procedure must—
 - (i) Describe the individual's and licensee's responsibilities related to self declaration;
 - (ii) Describe requirements for establishing controls and conditions under which an individual may be permitted or required to perform work after that individual declares that he or she is not fit due to fatigue; and
 - (iii) Describe the process to be followed if the individual disagrees with the results of a fatigue assessment that is required under Sec. 26.201(a)(2);
 - (2) Describe the process for implementing the work hour controls required under Sec. 26.199 for the individuals who are performing the duties listed in Sec. 26.199(a);
 - (3) Describe the process to be followed in conducting fatigue assessments under Sec. 26.201; and
 - (4) Describe the sanctions, if any, that the licensee may impose on an individual following a fatigue assessment.
 - (5) Describe the process to be followed when an individual requests to observe a 48-hour break period as allowed by 26.199 (d) (2) (iii).
- (c) Training and examinations. Licensees shall add the following KAs to the content of the training that is required in Sec.26.29(a) and the comprehensive examination required in Sec.26.29(b):

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- (1) Knowledge of the contributors to worker fatigue, circadian variations in alertness and performance, indications and risk factors for common sleep disorders, shiftwork strategies for obtaining adequate rest, and the effective use of fatigue countermeasures; and
 - (2) Ability to identify symptoms of worker fatigue and contributors to decreased alertness in the workplace.
- (d) Recordkeeping. Licensees shall retain the following records for at least 3 years or until the completion of all related legal proceedings, whichever is later:
- (1) Records of work hours for individuals who are subject to the work hour controls in Sec. 26.199;
 - (2) The documentation of waivers that is required in Sec. 26.199(d)(3)(iv), including the bases for granting the waivers;
 - (3) The documentation of work hour reviews that is required in Sec. 26.199(j)(3);
 - (4) The documentation of fatigue assessments that is required in Sec. 26.201(g); and
 - (5) The documentation of individual requested rest breaks and final licensee disposition of a 48-hour requested break in accordance with Sec. 26.199(d)(2)(iii).

Sec. 26.199 Work hour controls.

- (a) Individuals subject to work hour controls. Any individual who enters the protected area of a nuclear facility utilizing unescorted access or escorted access status to engage in any licensee authorized work duty within the protected area is subject to the requirements of this section.
- (b) Calculating individual work hours. For the purposes of this subpart, licensees shall calculate an individual's work hours as the amount of time that an individual performs any duties for a licensee who is subject to this subpart, including all within- shift break times and rest periods during which there are no reasonable opportunities or accommodations appropriate for restorative sleep, but excluding shift turnover.
 - (1) Shift turnover includes only those activities that are necessary to safely transfer information and responsibilities between two or more individuals between shifts. Shift 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; early arrivals of individuals for meetings, training, or

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pre-shift briefings for special evolutions; and holdovers for interviews needed for event investigations.

- (2) Other than shift turnover, only that portion of a break or rest period during which there is a reasonable opportunity and accommodations for restorative sleep may be excluded from the licensee's calculation of an individual's work hours.
- (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.
- (d) Work hour controls for individuals. Licensees shall control the work hours of individuals, as follows:
 - (1) Except as permitted under paragraph (d)(3) of this section, licensees shall ensure that any individual's work hours do not exceed the following limits:
 - (i) 16 work hours in any 24-hour period;
 - (ii) 26 work hours in any 48-hour period; and
 - (iii) 72 work hours in any 7-day period.
 - (2) Licensees shall ensure that individuals have adequate rest breaks. 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 shift turnover. At a minimum, licensees shall ensure that individuals who are subject to this section have the following breaks:
 - (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;
 - (ii) During periods of normal operations a 34-hour break in any 9-day period; and
 - (A) For a crew in a predominately 12-hour work schedule, an average of two 24-hour breaks per week over the nominal rotation cycle.

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- (B) For a crew in a predominately 8-hour to 10-hour work schedule, an average of one 24-hour break per week over the nominal rotation cycle.
 - (C) A nominal rotation cycle definition shall not exceed 6 weeks (42 days).
 - (D) Individuals are exempt from requirement (d)(2)(ii) for the first 70 days of a defined outage schedule period in which the requirements of (d)(2)(iii) are applied.
- (iii) During outage periods up to 70 days, in which the requirements of (d)(2)(ii) are not applied, a 34-hour break in any 7-day period. Upon the first 14 days of any defined plant outage period elapsing, an individual worker may request a 48-hour break in any 14-day period. A 48-hour requested break period shall be observed as an additional 14-hour break that is consecutive prior to or after the required 34-hour break period. Individuals requesting a 48-hour break period requires a reasonable notice by the individuals to the licensee to observe the additional break period. The licensee reserves the right to deny the 48-hour break to the requesting individual.
- (3) Licensees may grant a waiver of the individual work hour controls in paragraphs (d)(1) and (d)(2) of this section, as follows:
- (i) In order to grant a waiver, the licensee shall meet both of the following requirements:
 - (A) An operations shift manager determines that the waiver is necessary to mitigate or prevent a condition adverse to safety, or a security shift manager determines that the waiver is necessary to maintain the security of the facility, or a site senior-level manager with requisite signature authority makes either determination; and
 - (B) A supervisor, who is qualified to direct the work to be performed by the individual and trained in accordance with the requirements of Sec. 26.29 and 26.197(c), assesses the individual face to face and determines that there is reasonable assurance that the individual will be able to safely and competently perform his or her duties during the additional work period for which the waiver will be granted. At a minimum, the assessment must address the potential for acute and cumulative fatigue considering the individual's work history for at least the past 14 days, the potential for circadian degradations in alertness and performance considering the time

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of day for which the waiver will be granted, the potential for fatigue-related degradations in alertness and performance to affect risk-significant functions, and whether any controls and conditions must be established under which the individual will be permitted to perform work;

- (ii) To the extent practicable, licensees shall rely upon the granting of waivers only to address circumstances that could not have been reasonably controlled;
 - (iii) Licensees shall ensure that the timing of the face-to-face supervisory assessment that is required in paragraph (d)(3)(i)(B) of this section supports a valid assessment of the potential for worker fatigue during the time the individual will be performing work under the waiver. Licensees may not perform the face-to-face assessment more than four hours before the individual begins performing any work under the waiver; and
 - (iv) Licensees shall document the bases for individual waivers. The documented basis for a waiver must include a description of the circumstances that necessitate the waiver, a statement of the scope of work and time period for which the waiver is approved, and the bases for the determinations required in paragraph (d)(3)(i) of this section.
- (e) Self-declarations during extended work hours. If an individual is performing, or being assessed for, work under a waiver of the requirements contained in paragraphs (d)(1) and (d)(2) of this section and declares that, due to fatigue, he or she is unable to safely and competently perform his or her duties, the licensee shall immediately stop the individual from performing any duties listed in paragraph (a) of this section, except if the individual is required to continue performing those duties under other requirements of this chapter. If the subject individual must continue performing the duties listed in paragraph (a) of this section until relieved, the licensee shall immediately take action to relieve the individual. Following the self-declaration or relief from performing the duties listed in paragraph (a) of this section, as applicable, the licensee--
- (1) May reassign the individual to duties other than those listed in paragraph (a) of this section, but only if the results of a fatigue assessment, conducted in accordance with the requirements of Sec. 26.201, indicate that the individual is fit to safely and competently perform those other duties; and
 - (2) Shall permit or require the individual to take a rest break of at least 10 hours before the individual returns to performing any duties listed in paragraph (a) of this section.

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- (g) Successive plant outages. If two or more plant outages occur at the licensee's site and the interval(s) between successive outages is less than 2 weeks, the licensee shall apply the requirements in paragraph (d)(2)(iii) of this section based upon the number of days that have elapsed since the first plant outage in the series began.
- (h) Common defense and security. Licensees need not meet the requirements of this section when informed in writing by the NRC that these requirements, or any subset thereof, are waived for security personnel in order to assure the common defense and security, for the duration of the period defined by the NRC.
- (i) Plant emergencies. Licensees need not meet the requirements of paragraphs (c) through (f) of this section during declared emergencies, as defined in the licensee's emergency plan.
- (j) Reviews. Licensees shall review the control of work hours for individuals who are subject to this subpart for each averaging period not to exceed 26 weeks. Licensees shall complete this review within 30 days of the end of the averaging period. If any outages or increased threat conditions occurred since the licensee completed the most recent review, the licensee shall include in the review an assessment of the control of work hours during the outages or increased threat conditions.
Licensees shall--
 - (1) Review the work hours and performance of individuals to assess the effectiveness of the licensee's work hour controls in achieving the objective of reasonable assurance that fatigue due to work hours does not compromise individuals' abilities to safely and competently perform their duties. At a minimum, the licensee's review must address--
 - (i) Individuals who were granted more than one waiver during the review period;
 - (ii) Individuals who were assessed for fatigue in accordance with Sec. 26.201 during the review period;
 - (2) Review individuals' hours worked and the waivers under which work was performed to assess staffing adequacy for all jobs subject to the work hour controls of this section;
 - (3) Review individual 48-hour break period requests and licensee final disposition that is subject to Sec. 26.197(b)(2)(v), 26.197(c)(5), and 26.199(d)(2)(iii).
 - (4) Document the methods used to conduct these reviews and the results of the reviews; and

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- (5) Record, trend, and correct, under the licensee's corrective action program, any problems identified in maintaining control of work hours consistent with the specific requirements and performance objectives of this part.

Sec. 26.201 Fatigue assessments.

- (a) Licensees shall ensure that fatigue assessments are conducted under the following conditions:

- (1) For-cause. In addition to any other test or determination of fitness that may be required under Sec. Sec. 26.31(c) and 26.77, a fatigue assessment must be conducted in response to an observed condition of impaired individual alertness creating a reasonable suspicion that an individual is not fit to safely and competently perform his or her duties, except if the condition is observed during an individual's break period. If the observed condition is impaired alertness with no other behaviors or physical conditions creating a reasonable suspicion of possible substance abuse, then the licensee need only conduct a fatigue assessment. If the licensee has reason to believe that the observed condition is not due to fatigue, the licensee need not conduct a fatigue assessment;
- (2) Self-declaration. A fatigue assessment must be conducted in response to an individual's self-declaration to his or her supervisor that he or she is not fit to safely and competently perform his or her duties for any part of a working tour because of fatigue, except if, following the self-declaration, the licensee permits or requires the individual to take a rest break of at least 10 hours before the individual returns to duty;
- (3) Post-event. A fatigue assessment must be conducted in response to events requiring post-event drug and alcohol testing as specified in Sec. 26.31(c). Licensees may not delay necessary medical treatment in order to conduct a fatigue assessment; and
- (4) Follow-up. If a fatigue assessment was conducted for cause or in response to a self declaration, and the licensee returns the individual to duty following a rest break of less than 10 hours in duration, the licensee shall reassess the individual for fatigue as well as the need to implement controls and conditions before permitting the individual to resume performing any job duties.

- (b) Either a supervisor or a staff member of the FFD program, who is trained in accordance with the requirements of Sec. 26.29 and Sec. 26.197(c), shall conduct the fatigue assessment face to face with the individual whose alertness may be impaired.

- (1) In the case of a fatigue assessment conducted for cause, the individual who observed the condition of impaired alertness may not conduct the fatigue assessment.

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- (2) In the case of a post-event fatigue assessment, the individual who conducts the fatigue assessment may not have--
 - (i) Performed or directed the work activities during which the event occurred;
 - (ii) Performed, within 24 hours before the event occurred, a fatigue assessment of the individuals who were performing or directing the work activities during which the event occurred; and
 - (iii) Evaluated or approved a waiver of the limits specified in Sec. 26.199(d)(1) and (2) for any of the individuals who were performing or directing the work activities during which the event occurred, if the event occurred while such individuals were performing work under that waiver.
- (c) A fatigue assessment must provide the information necessary for management decisions and actions in response to the circumstance that initiated the assessment.
 - (1) At a minimum, the fatigue assessment must address the following factors:
 - (i) Acute fatigue;
 - (ii) Cumulative fatigue; and
 - (iii) Circadian variations in alertness and performance.
 - (2) Individuals shall provide complete and accurate information that may be required by the licensee to address the factors listed in paragraph (c)(1) of this section. Licensees shall limit any inquiries to obtaining from the subject individual only the personal information that may be necessary to assess the factors listed in paragraph (c)(1) of this section.
- (d) The licensee may not conclude that fatigue had not or will not degrade the individual's ability to safely and competently perform his or her duties solely on the basis that the individual's work hours have not exceeded any of the limits specified in Sec. 26.199(d)(1) or that the individual has had the minimum rest breaks required in Sec. 26.199(d)(2), as applicable.
- (e) Following a fatigue assessment, the licensee shall determine and implement the controls and conditions, if any, that are necessary to permit the individual to resume performing duties for the licensee, including the need for a rest break.
- (f) Licensees shall document the results of any fatigue assessments conducted, the circumstances that necessitated the fatigue assessment, and any controls and conditions that were implemented.

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Note: Changes to the draft rule text proposed in Decemeber 2005 are marked in yellow. Additional changes, based on further meetings from March 29th and 30th NRC public meetings are marked in turquoise. A significant number of these changes result from the NRC staff's proposal to eliminate collective work hours for all functional groups.

Subpart I--Managing Fatigue

Sec. 26.195 Applicability.

The requirements in this subpart apply only to the licensees and other entities identified in Sec. 26.3(a) and (d).

Sec. 26.197 General provisions.

(a) Policy. Licensees shall establish a policy for the management of fatigue and incorporate it into the written policy required in Sec. 26.27(b).

(b) Procedures. In addition to the procedures required in Sec. 26.27(c), licensees shall develop, implement, and maintain procedures that—

(1) Describe the process to be followed when any individual who is subject to an FFD program under Sec. 26.25(a)(1) or (2) 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 as a result of fatigue. The procedure must—

(i) Describe the individual's and licensee's responsibilities related to self-declaration;

(ii) Describe requirements for establishing controls and conditions under which an individual may be permitted or required to perform work after that individual declares that he or she is not fit due to fatigue; and

(iii) Describe the process to be followed if the individual disagrees with the results of a fatigue assessment that is required under Sec. 26.201(a)(2);

(2) Describe the process for implementing the work hour controls required under Sec. 26.199 for the individuals who are performing the duties listed in Sec. 26.199(a);

~~(iv) For individuals working a nominal rotation shift cycle containing a majority of 8 hour shifts for 7 work days not to exceed 8 work days of continuous duty with each work shift providing a break period as described in 26.199.d.2.(i); describe the process to be followed when an individual requests to observe a 24 Hour and/or a 48 Hour break period prior to the licensee soliciting or assigning further work to an individual exceeding the last scheduled day containing the 7 or 8 continuous work days as allowed by 26.199 (d) (2) (ii), 26.199 (d) (2) (iii) and 26.199 (d) (4).~~

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(3) Describe the process to be followed in conducting fatigue assessments under Sec. 26.201; and

(4) Describe the sanctions, if any, that the licensee may impose on an individual following a fatigue assessment.

(5) Describe the process to be followed when an individual requests to observe a 48- hour break period ~~for individuals working a nominal rotation shift cycle containing a majority of scheduled hours above 8 hours per shift as allowed by 26.199 (d) (2) (iii)-(a) and 26.199 (d) (4).~~

(c) Training and examinations. Licensees shall add the following KAs to the content of the training that is required in Sec. 26.29(a) and the comprehensive examination required in Sec. 26.29(b):

(1) Knowledge of the contributors to worker fatigue, circadian variations in alertness and performance, indications and risk factors for common sleep disorders, shiftwork strategies for obtaining adequate rest, and the effective use of fatigue countermeasures; and

(2) Ability to identify symptoms of worker fatigue and contributors to decreased alertness in the workplace.

(d) Recordkeeping. Licensees shall retain the following records for at least 3 years or until the completion of all related legal proceedings, whichever is later:

(1) Records of work hours for individuals who are subject to the work hour controls in Sec. 26.199;

(2) The documentation of waivers that is required in Sec. 26.199(d)(3)(iv), including the bases for granting the waivers;

(3) The documentation of work hour reviews that is required in Sec. 26.199(j)(3);

(4) The documentation of fatigue assessments that is required in Sec. 26.201(g); and

~~(5) Documentation of the collective work hours of each job duty group, as calculated in accordance with Sec. 26.199(b)(2).~~

~~(6) The documentation of individual requested rest breaks and final licensee disposition of the a 48-hour requested break in accordance with Sec. 26.199(d)(2)(ii) and 26.199(d)(2)(iii).~~

~~(e) Reporting. Licensees shall include the following information in the annual PFD program performance report required under Sec. 26.217:~~

~~(1) A summary of the number of instances during the previous calendar year in which the licensee waived any of the work hour controls specified in Sec. 26.199(d)(1) and (d)(2) for individuals identified by job title in Sec. 26.199(a). The report must include—~~

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- (i) Only those waivers under which work was performed; and
 - (ii) Each work hour control that was waived in Sec. 26.199(d)(1) and (d)(2), including all of the work hour controls that were waived for any single extended work period for which it was necessary to waive more than one work hour control;
- (2) The collective work hours of any job duty group listed in Sec. 26.199(a) that exceeded an average of 48 hours per person per week in any averaging period during the previous calendar year, in accordance with Sec. 26.199(f)(3) and (f)(5). The report must also include—
- (i) The dates that defined the averaging period(s) during which collective work hours exceeded 48 hours per person per week;
 - (ii) The job duty group that exceeded the collective work hours limit; and
 - (iii) The conditions that caused the job duty group's collective work hours to exceed the collective work hours limit; and
- (2) The number of fatigue assessments conducted during the previous calendar year, the conditions under which each fatigue assessment was conducted (i.e., self declaration, for cause, post-event, followup), and the management actions, if any, resulting from each fatigue assessment.
- (3) The number of 48-hour break periods requested by individuals identified by job title separated by the status of granted or denied by the licensee during the previous calendar year.

Sec. 26.199 Work hour controls.

(a) Individuals subject to work hour controls. Any individual who performs duties within enters the protected area of a nuclear facility utilizing unescorted access or escorted access status to engage in any licensee authorized work duty within the protected area the following job duty groups is subject to the requirements of this section:

- (1) Operating or on-site directing of the operation of systems and components that a risk informed evaluation process has shown to be significant to public health and safety;
- (2) Performing maintenance or on-site directing of the maintenance of structures, systems, and components that a risk informed evaluation process has shown to be significant to public health and safety;
- (3) Performing Health Physics or Chemistry duties required as a member of the on-site emergency response organization minimum shift complement;
- (4) Performing the duties of a Fire Brigade member who is responsible for understanding the effects of fire and fire suppressants on safe shutdown capability; and

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~~(5) Performing security duties as an armed security force officer, alarm station operator, response team leader, or watchperson, hereinafter referred to as security personnel.~~

(b) Calculating ~~work hours.~~ (1) Individual work hours. For the purposes of this subpart, licensees shall calculate an individual's work hours as the amount of time that an individual performs any duties for a licensee who is subject to this subpart, including all within- shift break times and rest periods during which there are no reasonable opportunities or accommodations appropriate for restorative sleep, but excluding shift turnover.

(i1) Shift turnover includes only those activities that are necessary to safely transfer information and responsibilities between two or more individuals between shifts. Shift 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. ~~Relieved individuals observing rest break(s) contained in Sec. 26.199(d)(2) that are contacted by telephone to discuss job continuity and/or technical assistance by the licensee is considered shift turnover and is excluded for work hours accounting purposes.~~ 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; early arrivals of individuals for meetings, training, or pre-shift briefings for special evolutions; and holdovers for interviews needed for event investigations.

(ii2) Other than shift turnover, only that portion of a break or rest period during which there is a reasonable opportunity and accommodations for restorative sleep may be excluded from the licensee's calculation of an individual's work hours.

~~(iii3) Licensees need not calculate the work hours of an individual who is qualified to perform the job duties listed in paragraph (a) of this section but has not performed such duties during the applicable calculation period. However, if the individual begins or resumes performing any of the job duties listed in paragraph (a) of this section, the licensee shall include in the calculation of the individual's work hours all work hours worked, including hours worked performing duties that are not listed in paragraph (a) of this section, and control the individual's work hours in accordance with the requirements of paragraph (d) of this section.~~

~~(2) Collective work hours. For the purposes of this subpart, licensees shall calculate collective work hours as the average number of work hours worked among each group of individuals who perform the duties listed in paragraphs (a) (a)(1) and (a)(5) of this section, within an averaging period that may not exceed 13 weeks, as follows:~~

~~(i) Licensees may define broad job duty groups comprised of individuals who perform the job duties listed in paragraph (a) (a)(1) and (a)(5) of this section, or may define smaller groups of individuals who perform similar duties. The groups must collectively include all individuals who perform the job duties listed in paragraph (a) of this section;~~

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~~(ii) Licensees shall include in the average for each job duty group the work hours of any individual who performs the job duties of the group at the licensee's site, except if, during the averaging period the individual worked less than 75 percent of the group's normally scheduled hours;~~

~~(iii) The days included in an averaging period must be consecutive or separated only by days that licensees are permitted to exclude from the collective work hour calculation under Sec. 26.199(f)(1) through (f)(3) and (f)(5), (h), and (i);~~

~~(iv) Licensees shall include within an averaging period all days that are not excluded from collective work hour controls under Sec. 26.199(f)(1) through (f)(3) and (f)(5), (h), and (i); and~~

~~(v) Licensees may not include in the collective work hour calculation for an averaging period any work hours that are included in a collective work hour calculation for any other averaging period.~~

(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.

(d) Work hour controls for individuals. Licensees shall control the work hours of individuals, as follows:

(1) Except as permitted under paragraph (d)(3) ~~and/or (d)(4)~~ of this section, licensees shall ensure that any individual's work hours do not exceed the following limits:

- (i) 16 work hours in any 24-hour period;
- (ii) 26 work hours in any 48-hour period; and
- (iii) 72 work hours in any 7-day period, ~~or.~~

(2) Licensees shall ensure that individuals have adequate rest breaks. 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 shift turnover. At a minimum, licensees shall ensure that individuals who are subject to this section have the following breaks:

(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;

(ii) ~~During periods of normal operations a~~ ~~A~~ 234-hour break in any 97-day period; ~~and or~~
~~and~~

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~~(A) During licensee normal operations for individuals identified in 26.199(d)(4), a 24-hour break after completing 7 or 8 consecutive days of scheduled 8 Hour Shifts in any 14-day period activated as an individual option requiring reasonable notice by individuals to the licensee to observe the break period. Individuals who do not exercise this option do not require the licensee to adhere to individual waiver requirements in 26.199(c)(3) unless subject to Section 26.199(d). During plant outages 26.199(d)(2)(ii)(A) is not applicable and 26.199(d)(2)(ii) and 26.199(d)(2)(iii) is applicable to 26.199(d)(4) individuals.~~

~~(A) For a crew in a predominately 12-hour work schedule, an average of two 24-hour breaks per week over the nominal rotation cycle.~~

~~(B) For a crew in a predominately 8-hour to 10-hour work schedule, an average of one 24-hour break per week over the nominal rotation cycle.~~

~~(C) A nominal rotation cycle definition shall not exceed 6 weeks (42 days).~~

~~(D) Individuals are exempt from requirement (d)(2)(ii) for the first 70 days of a defined outage schedule period in which the requirements of (d)(2)(iii) are applied.~~

~~(iii) A 48-hour break in any 14-day period, except during the first 14 days of any plant outage if the individual is performing the job duties listed in paragraph (a)(1) through (a)(4) of this section. During outage periods up to 70 days, in which the requirements of (d)(2)(ii) are not applied, a 34-hour break in any 7-day period. Upon the first 14 days of any defined plant outage period elapsing, an individual worker may request A a 48-hour break in any 14-day period. A 48-hour requested break period shall be observed as an additional 14-hour break that is consecutive prior to or after the required 34-hour break period. activated as an I individuals requesting a 48-hour break period option requiring a reasonable notice by the individuals to the licensee to observe the additional break period. The licensee reserves the right to deny the 48-hour break to the requesting individual. Individuals who do not exercise this option do not require the licensee to adhere to individual waiver requirements in 26.199(c)(3) unless subject to Section 26.199(d), or~~

~~(A) During licensee normal operations for individuals identified in 26.199(d)(4), a 48-hour break in any 14-day period during licensee normal operations. During plant outages 26.199(d)(2)(iii)(A) is not applicable and 26.199(d)(2)(ii) and 26.199(d)(2)(iii) is applicable to 26.199(d)(4) individuals.~~

(3) Licensees may grant a waiver of the individual work hour controls in paragraphs (d)(1) and (d)(2) of this section, as follows:

(i) In order to grant a waiver, the licensee shall meet both of the following requirements:

(A) An operations shift manager determines that the waiver is necessary to mitigate or prevent a condition adverse to safety, or a security shift manager determines that the waiver is necessary to maintain the security of the facility, or a site senior-level manager with requisite signature authority makes either determination; and

(B) A supervisor, who is qualified to direct the work to be performed by the individual

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and trained in accordance with the requirements of Sec. 26.29 and 26.197(c), assesses the individual face to face and determines that there is reasonable assurance that the individual will be able to safely and competently perform his or her duties during the additional work period for which the waiver will be granted. At a minimum, the assessment must address the potential for acute and cumulative fatigue considering the individual's work history for at least the past 14 days, the potential for circadian degradations in alertness and performance considering the time of day for which the waiver will be granted, the potential for fatigue-related degradations in alertness and performance to affect risk-significant functions, and whether any controls and conditions must be established under which the individual will be permitted to perform work;

(ii) To the extent practicable, licensees shall rely upon the granting of waivers only to address circumstances that could not have been reasonably controlled;

(iii) Licensees shall ensure that the timing of the face-to-face supervisory assessment that is required in paragraph (d)(3)(i)(B) of this section supports a valid assessment of the potential for worker fatigue during the time the individual will be performing work under the waiver. Licensees may not perform the face-to-face assessment more than four hours before the individual begins performing any work under the waiver; and

(iv) Licensees shall document the bases for individual waivers. The documented basis for a waiver must include a description of the circumstances that necessitate the waiver, a statement of the scope of work and time period for which the waiver is approved, and the bases for the determinations required in paragraph (d)(3)(i) of this section.

~~(4) During licensee normal operations for individuals working 7 or 8 days of consecutive work periods scheduled for 8 hours each contained in a nominal shift rotation cycle of 14 days or more 26.199(d)(2)(ii)(A) and 26.199(d)(2)(iii)(A) is applicable for rest periods with 26.199(d)(2)(ii) and 26.199(d)(2)(iii) being inapplicable for normal operations rest periods. For plant outages 26.199(d)(2)(ii) and 26.199(d)(2)(iii) are applicable to individuals scheduled for 8 hour shift rotations for rest periods with 26.199(d)(2)(ii)(A) and 26.199(d)(2)(iii)(A) being inapplicable for plant outage rest breaks.~~

(e) Self-declarations during extended work hours. If an individual is performing, or being assessed for, work under a waiver of the requirements contained in paragraphs (d)(1) and (d)(2) of this section and declares that, due to fatigue, he or she is unable to safely and competently perform his or her duties, the licensee shall immediately stop the individual from performing any duties listed in paragraph (a) of this section, except if the individual is required to continue performing those duties under other requirements of this chapter. If the subject individual must continue performing the duties listed in paragraph (a) of this section until relieved, the licensee shall immediately take action to relieve the individual. Following the self-declaration or relief from performing the duties listed in paragraph (a) of this section, as applicable, the licensee--

(1) May reassign the individual to duties other than those listed in paragraph (a) of this section, but only if the results of a fatigue assessment, conducted in accordance with the requirements of Sec. 26.201, indicate that the individual is fit to safely and competently perform those other duties; and

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(2) Shall permit or require the individual to take a rest break of at least 10 hours before the individual returns to performing any duties listed in paragraph (a) of this section.

~~(f) Collective work hour limits. In addition to controlling individuals' work hours in accordance with paragraph (d) of this section, licensees shall control the collective work hours of each group of individuals who are performing similar job duties, as listed in paragraphs (a) (a)(1) and (a)(5) of this section. Licensees shall ensure that the collective work hours of each job duty group do not exceed an average of 48 hours per person per week in any averaging period, except as follows:~~

~~(1) The licensee need not impose the collective work hour controls required in this paragraph on the job duty groups specified in paragraphs (a)(1) through (a)(4) (a) (a)(1) of this section during the first 8 weeks of a plant outage;~~

~~(2) For job duty groups comprised of security personnel—~~

~~(i) The group work hour average(s) may not exceed 60 hours per person per week during the first 8 weeks of a plant outage or a planned security system outage;~~

~~(ii) The group work hour average(s) may not exceed 60 hours per person per week during the actual conduct of force on force tactical exercises (i.e., licensee exercises and NRC-observed exercises);~~

~~(iii) The licensee need not impose any collective work hour controls for the first 8 weeks of an unplanned security system outage or an increased threat condition;~~

~~(iv) If an increase in threat condition occurs while the site is in any plant outage or a planned security system outage and the increased threat condition persists for a period of 8 weeks or less, the licensee need not impose collective work hour controls on security personnel for the duration of the increased threat condition. However, if during any such outage, the threat condition returns to the least significant threat condition that was in effect at any time within the past 8 weeks, then the licensee shall limit the collective work hours of security personnel to an average of 60 hours per person per week for the first 8 weeks of the outage for the periods prior to and following the increased threat condition, and shall limit the collective work hours of security personnel to an average of 48 hours per person per week following the first 8 weeks of the outage;~~

~~(v) If additional increases in threat condition occur during an unplanned security system outage or increased threat condition, the relaxation of the collective work hour limits that is permitted in paragraph (f)(2)(iii) of this section may be extended with each increase in the threat condition, but only for a period that is the shorter of either the duration of the increased threat condition or 8 weeks;~~

~~(vi) If the threat condition decreases during an unplanned security system outage or increased threat condition, the applicability of the relaxation of the collective work hour limits that is permitted in paragraph (f)(2)(iii) of this section must be based upon the date upon which the~~

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~~current threat condition was last entered as a result of an increase;~~

~~(3) The collective work hours of any job duty group listed in paragraphs (a) (a)(1) and (a)(5) of this section may exceed an average of 48 hours per person per week in one averaging period if all of the following conditions are met:~~

~~(i) The circumstances that cause the group's collective work hours to exceed 48 hours per person per week cannot be reasonably controlled;~~

~~(ii) The group's collective work hours do not exceed 54 hours per person per week; and~~

~~(iii) The additional work hours that result in the group's collective work hours exceeding 48 hours per person per week are worked only to address the circumstances that the licensee could not have reasonably controlled.~~

~~(4) The collective work hours of any job duty group may not exceed 48 hours per person per week if the collective work hours for the job duty group exceeded 48 hours per person per week—~~

~~(i) In the previous averaging period; or~~

~~(ii) In any other averaging period that ended within the past 26 weeks.~~

~~(5) Licensees may also exceed any collective work hour limits in this paragraph if the licensee has received prior approval from the NRC of a written request that includes, at a minimum,~~

~~(i) A description of the specific circumstances that require the licensee to exceed the applicable collective work hour limit, the job duty group(s) affected, and the collective work hours limit(s) to be exceeded;~~

~~(ii) A statement of the period of time during which it will be necessary to exceed the collective work hour limit(s); and~~

~~(iii) A description of the fatigue mitigation strategies, including, but not limited to, rest break requirements and work hour limits, that the licensee will implement to ensure that the individuals affected will be fit to safely and competently perform their duties.~~

(g) Successive plant outages. If two or more plant outages occur at the licensee's site and the interval(s) between successive outages is less than 2 weeks, the licensee shall apply the requirements in paragraphs (d)(2)(iii), ~~(f)(1)~~, ~~(f)(2)(i)~~, and ~~(f)(2)(iv)~~ of this section based upon the number of days that have elapsed since the first plant outage in the series began.

(h) Common defense and security. Licensees need not meet the requirements of this

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section when informed in writing by the NRC that these requirements, or any subset thereof, are waived for security personnel in order to assure the common defense and security, for the duration of the period defined by the NRC.

(i) Plant emergencies. Licensees need not meet the requirements of paragraphs (c) through (f) of this section during declared emergencies, as defined in the licensee's emergency plan.

(j) Reviews. Licensees shall review the control of work hours for individuals who are subject to this subpart for each averaging period ~~not to exceed 26 weeks~~. Licensees shall complete this review within 30 days of the end of the averaging period. If any outages or increased threat conditions occurred since the licensee completed the most recent review, the licensee shall include in the review an assessment of the control of work hours during the outages or increased threat conditions.

Licensees shall--

(1) Review the work hours and performance of individuals to assess the effectiveness of the licensee's work hour controls in achieving the objective of reasonable assurance that fatigue due to work hours does not compromise individuals' abilities to safely and competently perform their duties. At a minimum, the licensee's review must address--

(i) Individuals who were granted more than one waiver during the review period;

(ii) Individuals who were assessed for fatigue in accordance with Sec. 26.201 during the review period;

~~(iii) Individuals who performed the job duties listed in paragraph (a) of this section whose average work hours per week exceeded 54 hours during any averaging period for which the collective work hour limit is 48 hours in this section; and~~

~~(iv) Any security personnel whose average work hours per week exceeded 66 hours in any averaging periods for which the collective work hours limit in this section is 60 hours per person per week;~~

(2) Review individuals' hours worked and the waivers under which work was performed to assess staffing adequacy for all jobs subject to the work hour controls of this section;

~~(3) Review individual 48-hour break period requests and licensee final disposition that is subject to Sec. 26.197(b)(2)(v), 26.197(c)(5), and 26.199(d)(2)(iii).~~

~~(34)~~ Document the methods used to conduct these reviews and the results of the reviews;
and

~~(45)~~ Record, trend, and correct, under the licensee's corrective action program, any problems identified in maintaining control of work hours consistent with the specific requirements and performance objectives of this part.

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Sec. 26.201 Fatigue assessments.

(a) Licensees shall ensure that fatigue assessments are conducted under the following conditions:

(1) For-cause. In addition to any other test or determination of fitness that may be required under Sec. Sec. 26.31(c) and 26.77, a fatigue assessment must be conducted in response to an observed condition of impaired individual alertness creating a reasonable suspicion that an individual is not fit to safely and competently perform his or her duties, except if the condition is observed during an individual's break period. If the observed condition is impaired alertness with no other behaviors or physical conditions creating a reasonable suspicion of possible substance abuse, then the licensee need only conduct a fatigue assessment. If the licensee has reason to believe that the observed condition is not due to fatigue, the licensee need not conduct a fatigue assessment;

(2) Self-declaration. A fatigue assessment must be conducted in response to an individual's self-declaration to his or her supervisor that he or she is not fit to safely and competently perform his or her duties for any part of a working tour because of fatigue, except if, following the self-declaration, the licensee permits or requires the individual to take a rest break of at least 10 hours before the individual returns to duty;

(3) Post-event. A fatigue assessment must be conducted in response to events requiring post-event drug and alcohol testing as specified in Sec. 26.31(c). Licensees may not delay necessary medical treatment in order to conduct a fatigue assessment; and

(4) Followup. If a fatigue assessment was conducted for cause or in response to a selfdeclaration, and the licensee returns the individual to duty following a rest break of less than 10 hours in duration, the licensee shall reassess the individual for fatigue as well as the need to implement controls and conditions before permitting the individual to resume performing any job duties.

(b) Either a supervisor or a staff member of the FFD program, who is trained in accordance with the requirements of Sec. 26.29 and Sec. 26.197(c), shall conduct the fatigue assessment face to face with the individual whose alertness may be impaired.

(1) In the case of a fatigue assessment conducted for cause, the individual who observed the condition of impaired alertness may not conduct the fatigue assessment.

(2) In the case of a post-event fatigue assessment, the individual who conducts the fatigue assessment may not have--

(i) Performed or directed the work activities during which the event occurred;

(ii) Performed, within 24 hours before the event occurred, a fatigue assessment of the individuals who were performing or directing the work activities during which the event occurred; and

(iii) Evaluated or approved a waiver of the limits specified in Sec. 26.199(d)(1) and (2)

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for any of the individuals who were performing or directing the work activities during which the event occurred, if the event occurred while such individuals were performing work under that waiver.

(c) A fatigue assessment must provide the information necessary for management decisions and actions in response to the circumstance that initiated the assessment.

(1) At a minimum, the fatigue assessment must address the following factors:

- (i) Acute fatigue;
- (ii) Cumulative fatigue; and
- (iii) Circadian variations in alertness and performance.

(2) Individuals shall provide complete and accurate information that may be required by the licensee to address the factors listed in paragraph (c)(1) of this section. Licensees shall limit any inquiries to obtaining from the subject individual only the personal information that may be necessary to assess the factors listed in paragraph (c)(1) of this section.

(d) The licensee may not conclude that fatigue had not or will not degrade the individual's ability to safely and competently perform his or her duties solely on the basis that the individual's work hours have not exceeded any of the limits specified in Sec. 26.199(d)(1) or that the individual has had the minimum rest breaks required in Sec. 26.199(d)(2), as applicable.

(e) Following a fatigue assessment, the licensee shall determine and implement the controls and conditions, if any, that are necessary to permit the individual to resume performing duties for the licensee, including the need for a rest break.

(f) Licensees shall document the results of any fatigue assessments conducted, the circumstances that necessitated the fatigue assessment, and any controls and conditions that were implemented.

From: Carol Gallagher
To: Evangeline Ngbea
Date: Fri, Aug 4, 2006 12:04 PM
Subject: Comment letter on FFD rule

Van,

Attached for docketing is a comment letter on the above noted proposed rule from Edwin D. Hill, IBEW, that I received via the rulemaking website on 8/3/06.

Carol

CC: Adria Byrdsong

Mail Envelope Properties (44D37011.146 : 5 : 35764)

Subject: Comment letter on FFD rule
Creation Date 08/04/2006 12:04:33 PM
From: Carol Gallagher

Created By: CAG@nrc.gov

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MESSAGE	547	08/04/2006 12:04:33 PM
TEXT.htm	494	
1602-0101.pdf	1701827	08/04/2006 11:00:56 AM

Options

Expiration Date: None
Priority: Standard
ReplyRequested: No
Return Notification: None

Concealed Subject: No
Security: Standard

Junk Mail Handling Evaluation Results

Message is not eligible for Junk Mail handling
Message is from an internal sender

Junk Mail settings when this message was delivered

Junk Mail handling disabled by User
Junk Mail handling disabled by Administrator
Junk List is not enabled
Junk Mail using personal address books is not enabled

Block List is not enabled

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Subject: Fwd: Comment letter on FFD rule
Creation Date Mon, Aug 7, 2006 7:57 AM
From: Evangeline Ngbea

Created By: ESN@nrc.gov

Recipients

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Files	Size	Date & Time
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Options

Expiration Date: None
Priority: Standard
ReplyRequested: No
Return Notification: None

Concealed Subject: No
Security: Standard

Junk Mail Handling Evaluation Results

Message is not eligible for Junk Mail handling
Message is from an internal sender

Junk Mail settings when this message was delivered

Junk Mail handling disabled by User
Junk Mail handling disabled by Administrator
Junk List is not enabled
Junk Mail using personal address books is not enabled
Block List is not enabled