

July 22, 2011

The Honorable Jacob J. Lew  
Director, Office of Management and Budget  
Washington, D.C. 20503

SUBJECT: FAMILY ASSESSMENT CERTIFICATION

Dear Mr. Lew:

In accordance with Section 654 of the Treasury and General Government Appropriations Act (the Act) of 1999 (Pub. L. 105-277), the U.S. Nuclear Regulatory Commission (NRC) is hereby certifying that the Final Rule, "Alternative to Minimum Days Off Requirements," has been assessed in accordance with the seven criteria set forth in Section 654 of the Act. The NRC has made a finding that the action will not negatively affect family well-being.

If you have any questions please contact me or Rebecca Schmidt, Director of Congressional Affairs, at (301) 415-1776.

Sincerely,

*/RA/*

Gregory B. Jaczko

Enclosure: [Final rule](#)

Identical letter sent to:

The Honorable Jacob J. Lew  
Director, Office of Management and Budget  
Washington, D.C. 20503

The Honorable John Boehner  
Speaker of the United States  
House of Representatives  
Washington, D.C. 20515

The Honorable Joseph R. Biden, Jr.  
President of the United States Senate  
Washington, D.C. 20510

The Honorable Barbara Boxer  
Chairman, Committee on Environment and Public Works  
United States Senate  
Washington, D.C. 20510  
cc: Senator James M. Inhofe

The Honorable Thomas R. Carper  
Chairman, Subcommittee on Clean Air and  
Nuclear Safety  
Committee on Environment and Public Works  
United States Senate  
Washington, D.C. 20510  
cc: Senator John Barrasso

The Honorable Fred Upton  
Chairman, Committee on Energy and Commerce  
United States House of Representatives  
Washington, D.C. 20515  
cc: Representative Henry A. Waxman

The Honorable Ed Whitfield  
Chairman, Subcommittee on Energy and Power  
Committee on Energy and Commerce  
United States House of Representatives  
Washington, D.C. 20515  
cc: Representative Bobby L. Rush

The Honorable John Shimkus  
Chairman, Subcommittee on Environment and the Economy  
Committee on Energy and Commerce  
United States House of Representatives  
Washington, D.C. 20515  
cc: Representative Gene Green

**NUCLEAR REGULATORY COMMISSION**

**10 CFR Part 26**

**RIN 3150-AI94**

**[NRC-2011-0058]**

**Alternative to Minimum Days Off Requirements**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Final rule.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC or the Commission) is amending its regulations governing the fitness for duty of workers at nuclear power plants. These amendments allow holders of nuclear power plant operating licenses the option to use a different method from the one already prescribed in the NRC's regulations for determining when certain nuclear power plant workers must be afforded time off from work to ensure that such workers are not impaired due to cumulative fatigue caused by work schedules.

**EFFECTIVE DATE:** This final rule is effective **[INSERT DATE 30 DAYS AFTER THE DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

**ADDRESSES:** You can access publicly available documents related to this document using the following methods

- **Federal rulemaking Web site:** Go to <http://www.regulations.gov/> and search for documents filed under Docket ID NRC-2011-0058. Address questions about NRC dockets to Carol Gallagher, telephone: 301-492-3668, e-mail: [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov).
- **NRC's Public Document Room (PDR):** The public may examine and have copied for a fee publicly available documents at the NRC's PDR, Public File Area O-1F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.
- **NRC's Agencywide Documents Access and Management System (ADAMS):** Publicly available documents created or received at the NRC are available online in the NRC Library at <http://www.nrc.gov/reading-rm/adams.html>. From this page, the public can gain entry into ADAMS, which provides text and image files of the NRC's public documents. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC's PDR reference staff at 1-800-397-4209, or 301-415-4737, or by e-mail to [PDR.Resource@nrc.gov](mailto:PDR.Resource@nrc.gov).

**FOR FURTHER INFORMATION CONTACT:** Howard Benowitz, Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington DC 20555; telephone: 301-415-4060; e-mail: [Howard.Benowitz@nrc.gov](mailto:Howard.Benowitz@nrc.gov).

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## **I. Background**

### A. NRC's Fitness for Duty Regulations

On March 31, 2008, the NRC promulgated a final rule which substantially revised its regulations for fitness for duty (FFD) in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 26 (73 FR 16966; March 31, 2008). The revised regulations updated the NRC's FFD requirements and made them more consistent with other relevant Federal rules, guidelines, and drug and alcohol testing programs that impose similar requirements on the private sector.

In addition, by establishing clear and enforceable requirements for the management of worker fatigue, the 2008 amendments require nuclear power plant licensees to ensure that worker fatigue does not adversely affect public health and safety and the common defense and security. Among these fatigue management requirements is a minimum days off requirement, which requires licensees to manage cumulative fatigue by providing workers with a minimum number of days off over the course of a period not to exceed 6 weeks.

#### B. Stakeholder Reaction to the Fitness for Duty Requirements

On September 3, 2010, the Nuclear Energy Institute (NEI) submitted a petition for rulemaking (PRM-26-5). In PRM-26-5, the NEI stated that the “new rule has resulted in consequences not originally envisioned when the rule was developed” and that “[t]hese consequences have diminished the safety benefits of the rule.” The NEI stated that the unintended consequences stem from the minimum days off requirements, specifically § 26.205(d)(3) through § 26.205(d)(6), because they created an undue level of complexity and inflexibility in managing worker fatigue. These regulations mandated a specified minimum average number of days off per week, averaged over a fixed time period. The minimum average number of days off depended on the duties the individual performed and, for § 26.205(d)(3), the length of an individual’s shift schedule (i.e., whether the individual was working 8-, 10- or 12-hour shifts).

The NEI requested, among other changes, that 10 CFR Part 26, Subpart I, be amended to replace the minimum days off requirements in § 26.205(d) with a performance-based objective, consisting of an average of 54 hours worked per week, averaged over a calendar quarter. The NEI also proposed changing the § 26.205(e)(1) annual assessment of actual hours worked and performance of individuals subject to the work hour controls to a quarterly assessment to provide a more frequent review of hours worked. The NEI proposed to eliminate the minimum days off requirements in § 26.205(d)(3) through § 26.205(d)(6), while the work

hour limits and break requirements in § 26.205(d)(1)(i)-(iii) and (d)(2)(i)-(ii), respectively, would remain unchanged.

Separately from PRM-26-5, on September 23, 2010, the NEI submitted a request for enforcement discretion regarding the minimum days off provisions of 10 CFR Part 26. The request reiterated the NEI's opinion that the regulations that govern fatigue management impeded "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 requested that the NRC "exercise enforcement discretion from the [minimum days off] 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 a petition for rulemaking (PRM-26-6) on August 17, 2010. Mr. Erb requested that the NRC amend 10 CFR Part 26, Subpart I, to decrease the minimum days off 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.

### C. Public Meetings and Commission Direction

The NRC held a public meeting on November 18, 2010, to learn, directly from the affected stakeholders, more details about the unintended consequences of the minimum days off requirements. Although some of the stakeholders were comfortable with the minimum days off requirements in the 2008 final rule, the stakeholders at this public meeting claimed that the unintended consequences had diminished the safety benefits of the fatigue management provisions of 10 CFR Part 26 and expressed the need for an alternative that was simpler and would provide greater scheduling flexibility. Additional public meetings were held on January 6, 2011, and January 25, 2011, to provide opportunities for stakeholders and the NRC staff to discuss alternatives to the minimum days off requirements.

In a February 8, 2011, public meeting, the NRC staff and stakeholders briefed the Commission on the implementation of the 10 CFR Part 26 fatigue management requirements. The nuclear power industry stakeholders conveyed many of the same concerns raised in the three public meetings. The NRC staff presented the scientific and technical bases for the requirements for managing cumulative fatigue and a proposal to address the concerns raised by the industry stakeholders. The NRC staff proposed a maximum average 54-hour work week, averaged over a 6-week rolling period, as an alternative to the § 26.205(d)(3) minimum days off requirements. The NRC staff and industry stakeholders generally agreed that this proposal could provide the relief sought by the industry while meeting the objectives of the minimum days off requirements. Other stakeholders were less certain that the NRC should consider proposals to change the requirements.

On March 24, 2011, the Commission issued a Staff Requirements Memorandum (SRM) that directed the NRC staff to conduct a rulemaking to provide an alternative to the minimum days off requirements that would be consistent with the proposal presented by the NRC staff at the February 8, 2011, briefing. The Commission limited the scope of the rulemaking to the alternative to the minimum days off requirements and instructed the NRC staff to consider the following in a separate rulemaking effort: 1) other issues related to the petitions for rulemaking, 2) other changes to 10 CFR Part 26, and 3) comments received in this rulemaking proceeding that are outside the limited scope of this rulemaking. The Commission also directed the staff to expedite this rulemaking and provide a 30-day public comment period for the proposed rule instead of the typical 75-day public comment period.

On April 25, 2011, consistent with the March 24, 2011, SRM, the NRC revised its Enforcement Policy to include an interim provision allowing licensees enforcement discretion for violations of § 26.205(d)(3) if the licensees implement an alternative approach to the minimum days off requirements (76 FR 22802). This alternative approach limits an individual's number of

hours worked to a weekly average of 54 hours, calculated using a rolling window of up to 6 weeks. The enforcement discretion remains in place until the effective date of this final rule.

The NRC held public meetings on April 27, 2011, May 11, 2011, June 1, 2011, and June 23, 2011, to discuss implementation guidance for an alternative to the minimum days off requirements.

On May 16, 2011, consistent with the March 24, 2011, SRM, the NRC published notices that it would consider the issues raised in PRM-26-5 and PRM-26-6 in the planned “Quality Control/Quality Verification” rulemaking (Docket ID NRC-2009-0090) (76 FR 28191-28193).

## **II. Public Input to the Final Rule**

The NRC issued a proposed rule on April 26, 2011, to amend 10 CFR Part 26 to provide licensees with an option for managing cumulative fatigue that differed from the minimum days off requirements in § 26.205(d)(3) (76 FR 23208). The proposed rule would have permitted licensees to maintain individuals’ work hours at or below a weekly average of 54 work hours, calculated using a rolling period of up to 6 weeks, which would roll by no more than 7 consecutive calendar days at any time. On May 3, 2011, the NRC published a correction in the *Federal Register* to correct a typographical error in a Web site address that had appeared in the proposed rule (76 FR 24831). The public comment period closed on May 26, 2011.

The NRC received submittals from 10 commenters, which included 25 separate comments. Seven of the commenters supported the proposed rule’s concept of providing the alternative method of managing cumulative fatigue that would be simpler and more flexible to implement than the minimum days off requirements. These seven commenters included Mr. Erb, the Union of Concerned Scientists (UCS), and the NEI, with endorsements from Dominion Resources Services, Inc., Entergy Operations, Inc. and Entergy Nuclear Operations, Inc., Arizona Public Service Company (APS), and the Tennessee Valley Authority. Although it

supported the comments submitted by the NEI, the APS submitted additional comments concerning implementation of the alternative and minimum days off requirements. Another commenter, Mr. Larry Lawson, a nuclear power plant reactor operator, objected to the proposed rule. Two individuals, Mr. Harry Sloan and Mr. Mark Callahan, provided comments that were primarily outside the limited scope of this rulemaking.

Comments from the UCS indicate that one reason it supports the alternative is that, unlike the minimum days off requirements, the alternative would apply the same requirement to all workers subject to the work hour controls, without regard to their specific duties. The UCS remarked that this approach is supported by science, in contrast to the minimum days off requirements, which apply to individuals based on their duties and the length of their shift schedules.

Notwithstanding that the UCS supports the proposed rule as written, the NRC disagrees with the position in the comment that the minimum days off requirements are not supported by science. The intent of both of the minimum days off and alternative requirements is to manage cumulative fatigue. As explained in section III.A of this document, one method of managing cumulative fatigue is to require that an individual have a minimum number of days off from work. The Statement of Considerations (SOC) for the 2008 10 CFR Part 26 final rule provides the scientific basis for these requirements. The 2008 SOC describes why the number of days off each individual must have depends, in part, on their duties and the length of their shifts.

Another method of managing cumulative fatigue is to limit the number of hours an individual works, which indirectly imposes days off. The alternative provided by this final rule offers this method. This approach provides a level of assurance of the management of cumulative fatigue that is comparable to the minimum days off requirements. Although individuals who perform certain duties, such as security personnel, could work more hours in a 6-week period under the alternative as compared to the minimum days off requirements, the potential for fatigue that could result from the increased hours should be offset by anticipated

reductions in fatigue that will result from using an averaging period that advances by one week increments rather than by non-overlapping shift cycles. As noted elsewhere in this document, an averaging period that incrementally advances on a regular basis reduces the potential for front-loading and backloading successive weeks of long work hours. In addition, the alternative provides more flexibility for licensees to manage work hour schedules, thereby reducing the potential for fatigue caused by scheduling constraints. Implementing the alternative also reduces the administrative burden on licensees by having only one set of requirements for all covered workers.

The availability of the alternative does not diminish or call into question the efficacy of the minimum days off requirements. The implementation of either approach provides reasonable assurance that individuals will not be impaired due to cumulative fatigue.

#### *Specific Request for Comments*

In the proposed rule's SOC, the NRC sought comments and supporting rationale from the public on the following issue: Would the alternative approach provide assurance of the management of cumulative fatigue comparable to the current minimum days off requirements? Two commenters, Mr. Erb and the UCS, agreed that the alternative requirements would provide assurance that licensees could manage cumulative fatigue at a level that is comparable to the assurance provided by the minimum days off requirements. Mr. Erb also said that the alternative would help to alleviate the unintended consequences caused by the minimum days off requirements.

The NRC agrees with the commenters. As described in section III.A of this document, the alternative provides licensees with a method for managing cumulative fatigue that is different in several ways from the minimum days off requirements but provides a comparable level of assurance that covered workers will not be impaired from cumulative fatigue due to their work schedules. The alternative also should eliminate the unintended consequences of the

minimum days off requirements by offering a simpler method for computing work hours and allowing licensees to be more flexible in how they schedule individuals' work hours.

Although Mr. Lawson did not directly respond to the question presented in the proposed rule's SOC, he stated that the alternative would ease the minimum days off restrictions and increase fatigue.

The NRC disagrees that the alternative would relax the cumulative fatigue management requirements. For the reasons given in section III.A of this document, the NRC has determined that the alternative approach provides assurance of the management of cumulative fatigue that is comparable to assurance provided by the minimum days off requirements.

Other commenters did not address this specific request for comment.

#### *Suggested Changes to the Proposed Rule*

The NEI stated that the proposed rule language uses the terms "rolling period" and "rolling window" interchangeably, and the SOC for the proposed rule also uses the term "averaging period," when referring to the 6-week maximum period over which the 54-hour per week average is to be calculated. The NEI suggested that the NRC use only the term "averaging period."

The NRC agrees with the NEI that the terms are used interchangeably throughout the proposed rule's SOC but notes that the proposed rule language uses "averaging period" and "rolling period." The NRC agrees that, to ensure clarity, one term should be used when referring to the 6-week maximum period over which the 54-hour per week average is to be calculated. That term is "averaging period." The term "incremental period" is used in this document to describe the amount of time by which a licensee rolls forward, or incrementally advances, its averaging periods.

The NEI also recommended that the following words in proposed § 26.205(d)(7)(i) be removed: "which rolls by no more than 7 consecutive calendar days at any time." The NEI

contended that those words add a new requirement that 1) was not discussed at the February 8, 2011, Commission briefing; 2) is not based on the technical and regulatory analysis performed by the NRC staff; 3) is inconsistent with the minimum days off requirements and its associated guidance, neither of which stipulates the duration of the rolling increment; and 4) would be outside the scope of the March 24, 2011, SRM. According to the NEI, this proposed rule language would result in an unintended consequence of preventing the rolling periods from being matched to the licensee's payroll schedules, thereby possibly resulting in rolling schedules that are different for each individual worker and unwarranted complexity.

The NRC agrees in part and disagrees in part with the NEI comments. The words, "which rolls by no more than 7 consecutive calendar days at any time," in proposed § 26.205(d)(7)(i), were not discussed at the February 8, 2011, Commission briefing. However, as noted by the NEI, the NRC and stakeholders discussed at public meetings how the averaging periods could be advanced on a weekly basis. The intent of the rule language in question was to establish the minimum and maximum periods by which a licensee could advance an averaging period. Thus, a licensee could advance its averaging period by as little as one day but by no more than one week, or 7 consecutive calendar days. Although licensees at the public meetings may have talked about advancing their averaging periods on a weekly basis, the NRC did not want to limit licensees' flexibility by requiring 1-week incremental periods.

More importantly, without having an upper limit on the length of the incremental period, licensees could advance their averaging periods on a 6-week basis, resulting in fixed 6-week schedules. An approach requiring a maximum weekly average of 54 work hours using fixed averaging schedules would allow more consecutive weeks of high levels of work hours than using averaging schedules that incrementally advance on a regular basis. Under the former type of schedule, a licensee could back-load one fixed schedule with long work hour weeks and front-load the next fixed schedule with long work hour weeks, resulting in several consecutive

excessive work hour weeks and potentially cumulatively-fatigued individuals. The latter type of schedule limits the number of hours that can be worked in consecutive weeks because each week's hours affect the number of hours worked in the other weeks in the averaging period. By advancing the averaging period on a consistent basis, licensees must consider the impact of each week's work hours before and after each incremental advance. The use of fixed averaging schedules also would be inconsistent with the incrementally advancing averaging period concept considered in the NRC regulatory basis and with the NRC staff's statements to the Commission at the February 8, 2011, briefing. See, e.g., Transcript of February 8, 2011, Commission Briefing on the Implementation of Part 26, p. 89, lines 4-9.

The NRC agrees with the NEI that use of an incremental period that is shorter than 7 days could introduce unintended complexity to the implementation of the alternative. In some cases, such as when an averaging period ends 4 days before a unit outage is scheduled to begin, the licensee cannot advance the averaging period by a full incremental period of 7 days. The proposed rule would have required the use of an incremental period of less than 7 days. The NRC is revising the rule language to eliminate the requirement to advance an averaging period by fewer than 7 calendar days. The final rule requires licensees to advance averaging periods on a 7-day (i.e., weekly) basis to preclude scheduling consecutive, excessively long work weeks without proper restorative rest. Thus, in a 6-week averaging period, once the averaging period has begun advancing, the incremental period will be 1 week long and will always be the sixth week of that averaging period. Also, in association with this final rule, the NRC is endorsing implementation guidance that includes an acceptable method for addressing averaging periods and incremental periods of less than 7 days in duration.

The NEI identified another unintended consequence of the words, "which rolls by no more than 7 consecutive calendar days at any time," in proposed § 26.205(d)(7)(i). The definition of a day off contained in § 26.205(d)(3) states that a day off is a calendar day in which an individual does not start a work shift. For many licensees, this definition is used in computer

software to count the work hours of a shift that begins at the end of a calendar day but ends during the next calendar day, as hours worked on the day the shift started as opposed to splitting the hours between the two days. The NEI claimed that the NRC's interpretation of this proposed rule language, as expressed at the May 11, 2011, public meeting, would impact this practice and cause an unnecessary change to the industry software.

The NRC agrees with the NEI's comment. At the May 11, 2011, public meeting, the NRC explained that when a shift begins near the end of a calendar day that also happens to be the last day of an averaging period, but that shift ends during the next calendar day (and, thus, the next averaging period), the proposed rule would have required licensees to: 1) count the hours worked on the calendar day that was the end of the averaging period as hours worked during that averaging period; and 2) count the hours worked during that same shift but on the next calendar day as hours worked during the next averaging period. The NRC has added language to the final rule to clarify that when a shift starts at the end of a calendar day and concludes during the next calendar day, a licensee will have the option to consider the hours worked during that shift as if they were all worked on the day the shift started or count the hours on the calendar days the hours were actually worked. The licensee must choose only one option. Because the number of hours worked in an averaging period is averaged on a weekly incremental basis, hours counted in one averaging period instead of the next averaging period will still be taken into account in the weekly averaging calculation. In addition, this structure will not force upon licensees an undue burden of using a method for counting hours that is different from the way licensees currently count hours to determine a day off to comply with minimum days off requirements.

The NEI also commented that in the fourth paragraph in section III.C of the proposed rule's SOC, which includes a discussion of the force-on-force tactical exercise exception, the last sentence is inconsistent with the proposed rule language and the 2008 final rule. The NEI suggested that the paragraph should be revised to read: "exclude from the § 26.205(d)(7)

calculations the shifts worked” instead of “exclude from the § 26.205(d)(7) calculations the hours worked”.

The NRC disagrees with this comment. The proposed rule would have allowed licensees to exclude the *hours* worked during a force-on-force exercise because the calculation of average hours worked per week is computed by dividing the number of hours worked during the averaging period by the number of weeks in the averaging period. So, when the licensee excludes the shifts worked during an NRC-evaluated force-on-force tactical exercise, it is actually excluding the hours in the shifts when calculating the individual’s number of hours worked. No change was made to the SOC or rule language as a result of this comment.

The last paragraph in section III.C of the proposed rule’s SOC addresses the applicability of EGM-09-008, “Enforcement Guidance Memorandum—Dispositioning Violations of NRC Requirements for Work Hour Controls Before and Immediately After a Hurricane Emergency Declaration,” dated September 24, 2009, to the proposed maximum average work hours alternative. The NEI requests that this paragraph include an explanation of whether licensees with exemptions from the minimum days off requirements could rely on those existing exemptions if they choose to adopt the maximum average work hours alternative.

The NRC agrees that the paragraph in question could benefit from further clarity. A licensee that has already been granted an exemption from § 26.205(d) before and immediately after a hurricane emergency declaration can rely on that exemption if it implements the requirements in the new § 26.205(d)(7). The final rule’s SOC is also revised to provide further explanation of the conditions that must exist before the NRC staff may exercise enforcement discretion under EGM-09-008.

The NEI contends that the second sentence in proposed § 26.205(d)(7) is not necessary. That sentence reads: “Licensees voluntarily choosing to comply with the alternative maximum average work hours requirements in this paragraph are not relieved from complying with all other requirements in § 26.205 other than § 26.205(d)(3).” The NEI argues that there is

nothing stated or implied in § 26.205(d)(7) that would lead one to conclude that § 26.205(d)(7) provides any relief from complying with all other requirements in § 26.205 other than those in § 26.205(d)(3).

The NRC agrees with the NEI's comment and has deleted the second sentence of § 26.205(d)(7) in the final rule, because it is unnecessary.

The APS commented that although the NRC analysis of the proposed alternative relied on a licensee's implementation of only the alternative for all covered workers, the proposed rule language does not prohibit implementation of both the minimum days off and alternative requirements at one site. The APS claimed that plant procedures and management tools have the capacity to implement either cumulative fatigue management approach. Because both methods are effective in controlling cumulative fatigue, the APS argued that licensees should be able to select the method that works best for a given covered work group. It also claimed that at the Palo Verde Nuclear Generating Station, not allowing split implementation may have the effect of delaying restoration of longstanding safety beneficial practices by approximately one year.

The NRC disagrees that the proposed rule language did not prohibit implementation of both the minimum days off and alternative requirements at one site. The APS pointed to the following language in proposed § 26.205(d)(3) to support its argument: "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)" (italics added by the APS). The NRC intends that sentence to convey that licensees shall either:

- 1) ensure that individuals have, at a minimum, the number of days off specified in § 26.205(d)(3) (i.e., the licensee shall comply with the minimum days off requirements in § 26.205(d)(3)); or
- 2) comply with the requirements for maximum average work hours in § 26.205(d)(7). This reading of proposed § 26.205(d)(3), which focuses on the licensee's obligations, is consistent with the language of proposed § 26.205(d)(7)(ii), which reads as follows: "Each licensee shall

state, in its FFD policy and procedures required by § 26.27 and § 26.203(a) and (b), with which requirements the licensee is complying: the minimum days off requirements in § 26.205(d)(3) or maximum average work hours requirements in § 26.205(d)(7).” In both provisions, the licensee must choose which set of requirements it intends to follow. Thus, the proposed rule language clearly reflected the NRC’s position that each licensee must implement only one method of managing cumulative fatigue for all of its covered workers: either the minimum days off requirements or the alternative requirements. A reading of the proposed rule language would have been consistent with the interpretation in the APS’s comment if the word “either” had immediately followed “individuals” in the first sentence of § 26.205(d)(3), so that it read: “Licensees shall ensure that individuals either 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).”

However, the NRC is clarifying the rule language to ensure that all licensees document, in their FFD policies and procedures, the set of requirements with which they will comply, without regard to whether they comply with the minimum days off or the alternative requirements. The proposed rule could have been read to require licensees to document their election only if they implemented the alternative. This change to the final rule results from the APS comment.

The NRC also disagrees that a licensee should be able to implement the minimum days off requirements and the alternative requirements simultaneously for different covered groups, even for less than one year. The NRC’s determination that the proposed alternative is equivalent to the minimum days off requirements considered the collective advantages and disadvantages of having all individuals who are subject to the work hour controls under a single set of cumulative fatigue management requirements. Allowing licensees to implement the minimum days off and alternative requirements simultaneously would also create an undue burden for NRC inspectors and undue cost and burden for licensees. Moreover, during the

public meetings and Commission briefing before the issuance of the proposed rule and in the request for enforcement discretion, industry stakeholders consistently requested swift relief from the minimum days off requirements for all covered workers. The industry stakeholders did not request relief from the minimum days off requirements for only certain covered groups of workers. By this final rule, which was produced on an expedited basis due to the compelling industry stakeholder needs, the NRC is providing an alternative to the minimum days off requirements for all covered workers. No change was made to the final rule as a result of this comment.

#### *Opposition to the Proposed Rule*

Mr. Lawson asserted that the work hour controls were issued to encourage licensees to adequately staff their plants, thereby reducing the effects of cumulative fatigue on plant operations. He stated that licensees have not hired more workers and won't hire more workers unless it is financially beneficial to do so. He argued that the proposed rule would provide relief from the work hour controls, thus removing any incentive for licensees to increase staffing.

The NRC disagrees with Mr. Lawson. The work hour controls were issued in 2008 to ensure against worker fatigue adversely affecting public health and safety and the common defense and security by establishing clear and enforceable requirements for the management of worker fatigue. The NRC requires that licensees comply with the requirements but does not direct licensees to satisfy these requirements by any particular means, such as by hiring more workers. Further, as stated in the SOC for this final rule, the alternative provides reasonable assurance of the management of cumulative fatigue that is comparable to the assurance provided by the minimum days off requirements. In doing so, the alternative does not provide relief from or relaxation of the minimum days off requirements. No change was made to the final rule as a result of this comment. Mr. Lawson also maintained that, as demonstrated by this rulemaking and the shortened public comment period, the NRC seems willing to give the

industry whatever it wants. The NRC disagrees with this comment. At the November 18, 2010, public meeting, more than 20 individuals, representing maintenance, operations, and security workers, unions, and vendors, spoke of the unintended consequences of the minimum days off requirements. These stakeholders emphasized the industry's inability to continue practices that licensees consider beneficial, such as promoting continuity in work crew staffing and the continued development of licensee staff. The industry representatives 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 to help improve workers' quality of life and lessen the complexity of the rule. The Commission directed the staff to develop the proposed rule based on the following: 1) feedback from industry representatives; 2) information presented by two petitioners for rulemaking seeking changes to the work hour controls in 10 CFR 26.205; 3) NEI's request for enforcement discretion of those same regulatory provisions in 10 CFR 26.205; 4) evidence gathered from stakeholders at public meetings and the February 8, 2011, Commission briefing; and 5) analysis performed by the NRC staff and explained in memoranda to the Commission dated January 4, 2011, and February 28, 2011. The NRC also held three public meetings and one public briefing to the Commission on this issue between November 2010 and March 2011, thereby offering stakeholders several opportunities to provide their input. Taken together, all of this information provided the Commission with a reasonable basis to support its decision to issue the proposed rule and establish a 30-day comment period instead of the typical 75-day public comment period. No change was made to the final rule as a result of this comment.

Mr. Lawson contended that the alternative would allow licensees to give covered workers only one day off every 17 days, which, he said, the NRC admits could lead to fatigue. Nevertheless, the NRC proposed to permit this alternative. Mr. Lawson claimed that a violation of the alternative approach would result in either a "minor or non-cited violation," which would not be much of "a deterrent to the type of abuse we had during [the period when the only

industry-wide direction was based on Generic Letter 82-12, 'Nuclear Power Plant Staff Working Hours']'."

The NRC agrees in part and disagrees in part with Mr. Lawson's comments. The alternative allows licensees to create work schedules that could result in cumulative fatigue. The industry representatives at the February 8, 2011, Commission briefing illustrated this point with an example of a schedule of four consecutive weeks of 72-hour work weeks, the most hours a licensee can schedule in a 7-day period under the work hour controls. See Transcript of February 8, 2011, Commission Briefing on the Implementation of Part 26, p. 52, lines 16-18. However, the industry representatives explained that such a schedule would not be possible because, in part, shifts would be unmanned. *Id.* at lines 18-20 and p. 54, lines 10-13. For instance, an individual who is scheduled to work four consecutive 72-hour work weeks would also need two weeks of zero work hours during the 6-week averaging periods containing the four weeks of 72-hour work weeks. Such a schedule would be improbable for licensees to maintain because plants cannot operate without proper staffing. *Id.*

A schedule that provides an individual only 1 day off in 17 consecutive days under the alternative approach could result in cumulative fatigue. However, to limit an individual's number of days off to one in a 17-day period and still meet the 54-hour maximum weekly average, a licensee could not schedule an excessive number of work hours every week in the averaging periods containing that 17-day period. The NRC is also endorsing implementation guidance for licensees that summarizes this concern and reiterates each licensee's obligation to schedule work hours of covered workers consistent with the objective of preventing impairment from fatigue due to the duration, frequency, or sequencing of successive shifts as required by 10 CFR 26.205(c). Therefore, with the inherent self-limiting nature of a maximum weekly work hour average schedule, the use of regularly-repeating standard shift schedules by most licensees, site procedures that reinforce the requirement to effectively manage fatigue, and the other work hour controls in § 26.205(d)(1) and (d)(2), the risk of cumulative fatigue is low under

the schedule posited by Mr. Lawson. No change was made to the final rule as a result of this comment.

Concerning Mr. Lawson's comment comparing the alternative approach to the work hour controls that existed before the 2008 final rule, the NRC has examined the enforceability of the previous regulatory framework applicable to worker fatigue, which included the non-legally-binding Generic Letter 82-12. As explained in the 2008 final rule's SOC, the broad and nonprescriptive provisions of the pre-2008 10 CFR Part 26 and the technical specifications and license conditions pertaining to fatigue that existed at that time lacked clearly defined terms or measures of fatigue. This regulatory structure made it difficult for the NRC to enforce worker fatigue requirements and work hour limits in an effective, efficient, and uniform manner that would ensure that all licensees provided reasonable assurance that workers were able to safely and competently perform their duties. In contrast to that framework, the 2008 final rule established fatigue management program requirements that can be readily and consistently enforced. This final rule does not detract from that program but rather provides an optional means to achieve the goal of providing reasonable assurance of the management of cumulative fatigue. No change was made to the final rule as a result of this comment.

#### *Other Comments Within the Scope of the Rulemaking*

The UCS suggested that workers on 12-hour shifts would be restricted to working alternating 5-day (60 hours per week) and 4-day (48 hours per week) work weeks to adhere to the 54-hour average limit. The NRC disagrees that such a schedule would be the only permissible schedule under the alternative. For example, licensees could arrange a 6-week schedule of 72 hours, 72 hours, 60 hours, 48 hours, 36 hours, and 36 hours, which would average 54 hours per week and also meet the work hour controls in § 26.205(d)(1) and (d)(2). No change was made to the final rule as a result of this comment.

The UCS commented that the proposed revision to § 26.205(d)(4) would require licensees to follow the minimum days off requirements during outages lasting longer than 60 days, even if they applied the alternative approach before and during the outage. The NRC does not agree that the proposed rule would have required these licensees to meet the minimum days off requirements following the first 60 days of a unit outage. Individuals subject to the minimum days off requirements before a unit outage are subject to those same requirements after the first 60 days of the outage, unless § 26.205(d)(6) applies. Under the proposed and final rules, licensees who use the maximum average work hours provisions before an outage must follow those requirements after the first 60 days of the outage, unless § 26.205(d)(6) applies. The amendment to § 26.205(d)(4) allows licensees who use the maximum average work hours provisions before an outage to use those requirements during the outage too. A similar option is and has been available to licensees implementing the minimum days off requirements. Amended § 26.205(d)(4) does not change licensees' obligations after the first 60 days of an outage. No change was made to the final rule as a result of this comment.

#### *Comments Beyond the Scope of the Rulemaking*

Mr. Sloan remarked that some duties do not require constant surveillance, so the individuals performing these duties should not be subject to the fatigue management requirements. He also commented that it is more important to have a qualified person performing a task than it is to ensure that the person performing the task complies with the work hour controls. Mr. Sloan also believes that the rule is too complex and does not guarantee that an individual subject to the work hour requirements will diligently perform their duties.

The NRC considers Mr. Sloan's comments to be beyond the limited scope of the proposed and final rules. Mr. Sloan's comments concern the overall concept of the 10 CFR Part 26 work hour controls. As directed by the Commission in the March 24, 2011,

SRM, the NRC will consider these comments in a separate rulemaking effort, which the NRC has identified as the Quality Control/Quality Verification rulemaking. No change was made to the final rule as a result of these comments.

Mr. Callahan claimed that the 10 CFR Part 26 work hour controls do not reduce worker fatigue but can increase fatigue during outages. Specifically, he noted that when an individual works a backshift schedule, taking a 1-day break disrupts that person's sleep pattern. Recovery from this disruption takes several days, thus inducing fatigue. Mr. Callahan concluded that once a person adjusts to the unnatural sleep pattern (e.g., nightshift), it is far better to continue that pattern for the duration of an outage. He also stated that the current rule has caused a drop in his earnings.

The NRC considers Mr. Callahan's comments to be beyond the limited scope of the proposed and final rules. Mr. Callahan's comments concern the overall concept of the 10 CFR Part 26 work hour controls. As directed by the Commission in the March 24, 2011, SRM, the NRC will consider these comments in a separate rulemaking effort, which the NRC has identified as the Quality Control/Quality Verification rulemaking. No change was made to the final rule as a result of these comments.

### **III. Description of the Final Rule**

#### **A. Maximum Weekly Average of 54 Hours Worked Over a 6-Week Averaging Period that Advances on a Weekly Basis**

One cause of cumulative fatigue is consecutive days of restricted or poor quality sleep. In turn, consecutive days of restricted or poor quality sleep may be caused by such things as shift-work, extended work days, and extended work weeks. Former Subpart I of 10 CFR Part 26 offered nuclear power plant licensees only one primary method to manage cumulative fatigue: provide individuals with a minimum number of days off over the course of a

period not to exceed 6 weeks. The distribution of the days off during the 6-week period acts to either prevent or mitigate cumulative fatigue.

An alternative method for managing cumulative fatigue is to establish a requirement to limit actual hours worked instead of mandating the number of days off which individuals must have. A limit on actual hours worked, when applied to schedules that require regular shift coverage, limits the number of work hours that can contribute to cumulative fatigue and, as a practical matter, results in periodic days off for recovery rest. A schedule resulting in a weekly average of 54 hours worked, calculated using an averaging period of up to 6 weeks that incrementally advances on a consistent basis, is such a schedule.

In general, most individuals that work their normal shift schedule and receive only the minimum number of days off required under the minimum days off requirements of § 26.205(d)(3) could average as many as 54 hours of work per week. However, the NEI indicated that implementation of the minimum days off requirements reduced licensee scheduling flexibility and imposed a substantial administrative burden. By comparison, limiting work hours to an average of not more than 54 hours per week by using an averaging period of up to 6 weeks with 7-day incremental periods limits the number of consecutive weeks of extended work hours that an individual can work by using a comparable but simpler and more flexible requirement. The 6-week limit also remains consistent with the averaging duration and technical basis of the minimum days off requirements, as described in the SOC for the 2008 10 CFR Part 26 final rule. In addition, this alternative does not depend on the length of an individual's shift schedule. The alternative eliminates for licensees and individuals the burden of tracking the number of days off that an individual receives in a period not to exceed 6 weeks. Based on stakeholder input, the alternative will relieve operational burdens by enabling licensee personnel to engage in certain safety-beneficial practices with fewer scheduling restrictions, such as holding off-shift shift manager meetings and using the most knowledgeable workers in responding to plant events and conditions. The flexibility provided by the alternative also could

improve individuals' quality of life by allowing more flexibility in the way that individuals use their time when they are not working.

Use of 7-day incremental periods will provide reasonable assurance that licensees will not schedule several consecutive weeks of high levels of work hours and will not introduce unintended complexity to the implementation of the alternative. An upper limit on the length of the incremental period of 7 days prevents licensees from establishing fixed 5- or 6-week schedules. Those schedules permit licensees to back-load one fixed schedule with long work hour weeks and front-load the next fixed schedule with long work hour weeks, resulting in several consecutive weeks of long work hours and the potential for individuals to experience cumulative fatigue. Requiring licensees to advance their averaging periods on a 7-day basis limits the number of hours that can be worked in consecutive weeks because each week's hours affect the number of hours that can be worked in the other weeks in the averaging period. By advancing the averaging period on a consistent basis, licensees must consider the impact of each week's work hours before and after each incremental advance.

In summary, the maximum number of hours that can be worked under the alternative approach is comparable to the maximum number of hours that can be worked by most individuals under the 10 CFR Part 26 minimum days off requirements, except that the alternative requirement provides greater simplicity and flexibility. Although the schedule required under the alternative approach limits the number of consecutive extended work weeks and thereby limits the potential for cumulative fatigue, there are unusual potential circumstances in which the alternative requirement could be met and the schedule could be fatiguing. Such schedules include having only one in every nine days off or consistently working the maximum allowable hours, which would likely result in cumulative fatigue. However, the industry has stated that these unusual schedules are improbable. The NRC concludes that this alternative approach, together with other aspects of the rule that remain unchanged, provide reasonable

assurance that licensees will manage cumulative fatigue in a manner that contributes to the protection of public health and safety and common defense and security.

#### B. Alternative to the Minimum Days Off Requirements

The NRC is creating a new § 26.205(d)(7) that contains the alternative method for managing cumulative fatigue. This final rule allows nuclear power plant licensees and other entities identified in § 26.3(a) and, if applicable, (c) and (d) to choose whether or not to implement this alternative approach, in lieu of compliance with the minimum days off requirements in § 26.205(d)(3). The NRC is not removing the § 26.205(d)(3) minimum days off requirements and mandating that all licensees instead adopt new maximum average work hours requirements. Some licensees may be satisfied with the minimum days off requirements. In addition, a mandated change would constitute backfitting under the NRC's Backfit Rule, 10 CFR 50.109. None of the exceptions in § 50.109(a)(4) to the requirement to prepare a backfit analysis could be justified, and a backfit analysis could not demonstrate that a mandatory rule would constitute a cost-justified substantial increase in protection to public health and safety or common defense and security. For these reasons, the NRC has decided to add the maximum weekly average of 54 work hours, averaged over a period of up to 6 weeks that advances every 7 days, as an alternative to the minimum days off requirements.

#### C. Applicability

The alternative in this final rule can be used only in place of the minimum days off requirements in § 26.205(d)(3) and is applicable only to individuals subject to work hour controls under § 26.205(a). Under § 26.205(a), the subject individuals are those described in § 26.4(a). The NRC's determination that the proposed alternative is equivalent to the minimum days off requirements considered the collective advantages and disadvantages of having all individuals who are subject to the work hour controls under a single set of cumulative fatigue management

requirements. Thus, licensees are not able to subject one group of individuals under § 26.4(a) to the minimum days off requirements in § 26.205(d)(3) and another group of individuals under § 26.4(a) to new § 26.205(d)(7) requirements. Licensees must select only one option. This choice establishes the legally-binding requirement for that licensee for all individuals subject to the work hour controls of § 26.205.

Allowing licensees to implement the minimum days off and alternative requirements simultaneously would also create an undue burden for NRC inspectors and undue cost and burden for licensees. Having different workers subject to different requirements would make inspections more burdensome because of the amount of administrative time that would be necessary for NRC inspectors to prepare for and conduct an inspection. Taking this extra time would reduce the amount of available time for inspectors to conduct risk-informed inspections. Furthermore, licensees implementing both options would incur additional costs associated with having two processes and two training programs to implement the options and increased burden in managing individuals on a work shift who are subject to different work-hour requirements. This scheduling challenge would also diminish the industry's desire to have scheduling flexibility that enables safety-beneficial practices such as shift manager meetings and just-in-time training. These were the types of safety-beneficial practices that were curtailed as a result of the inflexibility of the minimum days off requirements.

Consistent with the minimum days off requirements in § 26.205(d)(3), the alternative maximum average work hours provisions apply to all periods of operations, with several specified exceptions: 1) during force-on-force exercises; 2) during plant emergencies; and 3) for security personnel when they are needed to maintain the common defense and security. In those limited circumstances, special provisions, described in section IV. of this document, apply. In addition, licensees had the option under former § 26.205(d)(4) to comply with the minimum days off requirements in either § 26.205(d)(3) or (d)(4) during unit outages when the affected individuals are working on outage activities. Licensees also had the option under former

§ 26.205(d)(5) to comply with the minimum days off requirements in either § 26.205(d)(3) or (d)(5) during unit outages, security system outages, or increased threat conditions. Under the final rule, licensees also have the option to comply with the maximum average work hours requirements under the above conditions. The SOC for the 2008 10 CFR Part 26 final rule explained the reasons why the Commission permits the exceptions and options involving the minimum days off requirements. The approach set forth in this final rule offers licensees an alternative to the minimum days off requirements that is equally effective at managing cumulative fatigue. Therefore, the SOC for the 2008 10 CFR Part 26 final rule also provides the justification for why the alternative applies to the exceptions and options described in section IV. of this document.

The NRC's Office of Enforcement issued EGM-09-008, "Enforcement Guidance Memorandum—Dispositioning Violations of NRC Requirements for Work Hour Controls Before and Immediately After a Hurricane Emergency Declaration," on September 24, 2009. The EGM-09-008 gives the NRC staff guidance for processing violations of work hour controls requirements during conditions before and immediately after the declaration of an emergency for a hurricane, when licensees sequester plant staff on site to ensure personnel are available for relief of duties, and potentially granting enforcement discretion for the affected requirements. Under EGM-09-008, the NRC may exercise enforcement discretion for violations of 10 CFR 26.205(c) and (d) while a licensee sequesters site personnel in preparation for hurricane conditions that are expected to result in the declaration of an emergency caused by high winds and immediately after the licensee has exited the emergency declaration. The licensee must meet certain conditions, including having site-specific procedural guidance that specifies the conditions necessary to sequester site personnel, and having requested an exemption from 10 CFR 26.205(c) and (d), or any part thereof, to allow for sequestering site personnel before and immediately after a hurricane. If the licensee must sequester before an exemption has been submitted, then the licensee must agree, in writing, to request the

exemption no later than 6 months before the onset of the next hurricane season, as established by the National Oceanic and Atmospheric Administration's National Hurricane Center. The EGM-09-008 refers to § 26.205(d) generally, and therefore, the requirements in § 26.205(d)(7) also fall under the enforcement discretion described by EGM-09-008. Also, licensees who, before the effective date of this final rule, were granted exemptions from § 26.205(d) before and immediately after a hurricane emergency declaration can rely on that exemption if they implement the requirements in § 26.205(d)(7).

#### **IV. Section-by-Section Analysis**

##### *10 CFR 26.203 General provisions.*

Section 26.203 establishes requirements for licensees' fatigue management policies, procedures, training, examinations, recordkeeping, and reporting. The NRC is making conforming changes to paragraphs within § 26.203 to ensure consistency between the implementation of the minimum days off requirements in § 26.205(d)(3) and the implementation of the maximum average work hours requirements in § 26.205(d)(7).

##### *Section 26.203(d)(2)*

Section 26.203(d)(2) requires licensees to retain records of shift schedules and shift cycles of individuals who are subject to the work hour requirements established in § 26.205. These records are necessary, in part, to ensure that documentation of the licensee's fatigue management program is retained and available for the NRC inspectors to verify that licensees are complying with the work hour requirements and waiver and fatigue assessment provisions. Licensees that implement the alternative must be able to demonstrate that individuals subject to the new work hour controls have not exceeded the average weekly work hours limit; therefore, inspectors need to know the averaging periods used by the licensee. The NRC is amending

§ 26.203(d)(2) to include the requirement that licensees implementing the requirements in § 26.205(d)(7) maintain records showing the beginning and end times and dates of all 6-week or shorter averaging periods. These licensees must also retain records of shift schedules to ensure compliance with the requirements in § 26.205(c) and (d)(2).

*Section 26.203(e)(1)*

The former § 26.203(e)(1) required licensees to provide the NRC with an annual summary of all instances during the previous calendar year in which the licensee waived each of the work hour controls specified in § 26.205(d)(1) through (d)(5)(i) for individuals who perform the duties listed in § 26.4(a)(1) through (a)(5). The NRC is revising § 26.203(e)(1) to require licensees to also report the instances when the licensee waived the requirements in § 26.205(d)(7).

*Section 26.203(e)(1)(i) and (e)(1)(ii)*

Section 26.203(e)(1)(i) and (e)(1)(ii) requires licensees to report whether work hour controls are waived for individuals working on normal plant operations or working on outage activities. The final rule requires licensees to include whether the alternative requirements in § 26.205(d)(7) were waived during normal plant operations or while working on outage activities.

*10 CFR 26.205 Work hours.*

Section 26.205 sets forth the NRC's requirements governing work hour controls applicable to individuals performing the duties in 10 CFR 26.4(a)(1) through (a)(5). The NRC is adding new § 26.205(d)(7) and (d)(8) and making conforming changes to paragraphs within § 26.205 to ensure consistency between the implementation of the minimum days off requirements in § 26.205(d)(3) and the implementation of the maximum average work hours requirements in § 26.205(d)(7).

*Section 26.205(b)(5)*

Section 26.205(b)(5) allows licensees to exclude from the calculation of an individual's work hours unscheduled work performed off site (e.g., technical assistance provided by telephone from an individual's home), provided the total duration of the work does not exceed a nominal 30 minutes during any single break period. For the purposes of compliance with the minimum break requirements of § 26.205(d)(2) and the minimum days off requirements of § 26.205(d)(3) through (d)(5), such duties do not constitute work periods or work shifts. The NRC is revising § 26.205(b)(5) to exclude these incidental duties from hours worked under § 26.205(d)(7).

*Section 26.205(d)(3)*

The former § 26.205(d)(3) required licensees to ensure that subject individuals have, at minimum, the days off as specified in this section. Under the final rule, licensees have the option of either complying with the minimum days off requirements in § 26.205(d)(3) or the alternative requirements in § 26.205(d)(7).

*Section 26.205(d)(4)*

Section 26.205(d)(4) provides a limited discretionary exception from the minimum days off requirements in § 26.205(d)(3) for individuals performing the duties specified in § 26.4(a)(1) through (a)(4) (i.e., certain operations, chemistry, health physics, fire brigade, and maintenance activities). The exception from the minimum days off requirements is available during the first 60 days of a unit outage while a subject individual is working on outage activities. In these circumstances, licensees are not required to calculate the requisite number of an individual's days off by a weekly average over a period of up to 6 weeks. Instead, if the licensee elects to apply the exception, § 26.205(d)(4) requires licensees to ensure that individuals specified in § 26.4(a)(1) through (a)(3) have a minimum of 3 days off in each successive (i.e., non-rolling)

15-day period and that individuals specified in § 26.4(a)(4) have at least 1 day off in any 7-day period. Detailed guidance on the applicability of this rule provision is available in Regulatory Guide 5.73, “Fatigue Management for Nuclear Power Plant Personnel.” After the first 60 days of a unit outage, regardless of whether the individual is working on unit outage activities, the individual is again subject to the minimum days off requirements of § 26.205(d)(3), except as permitted by § 26.205(d)(6). The NRC is revising § 26.205(d)(4) to allow licensees that implement the maximum average work hours alternative before and after an outage to have the option to use the alternative or the fixed number of days off approach during the first 60 days of a unit outage.

*Section 26.205(d)(5)(i)*

Section 26.205(d)(5)(i) provides a discretionary exception from the minimum days off requirements of § 26.205(d)(3) for personnel performing the duties described in § 26.4(a)(5) during unit outages or planned security system outages. The requirement limits this exception period to 60 days from the beginning of the outage and requires that individuals performing the security duties identified in § 26.4(a)(5) during this period have a minimum of 4 days off in each non-rolling 15-day period. Amended § 26.205(d)(5)(i) allows licensees that implement the maximum average work hours alternative before and after an outage to have the option to use the alternative or the fixed number of days off approach in § 26.205(d)(5)(i) for security personnel during the first 60 days of a unit outage or planned security system outage.

*Section 26.205(d)(5)(ii)*

Section 26.205(d)(5)(ii) provides a discretionary exception from the minimum days off requirements of § 26.205(d)(3) and (d)(5)(i) for security personnel during the first 60 days of an unplanned security system outage or an increased threat condition. Individuals performing the security duties identified in § 26.4(a)(5) during this period do not have to meet the minimum

days off requirements of § 26.205(d)(3) or (d)(5)(i). The NRC is revising § 26.205(d)(5)(ii) to provide that, during the first 60 days of an unplanned security system outage or an increased threat condition, licensees would not need to meet the requirements of § 26.205(d)(3), (d)(5)(i), or (d)(7) for security personnel.

#### *Section 26.205(d)(7)*

The NRC is including a new section in 10 CFR Part 26 governing maximum average work hours for subject individuals, which licensees can implement as an alternative to comparable provisions in § 26.205(d)(3). Licensees who choose to implement this alternative must nonetheless comply with all requirements in § 26.205 other than the minimum days off requirements in § 26.205(d)(3).

The individuals subject to the maximum average work hours requirements in this section are the same as the individuals subject to the comparable controls in § 26.205(d)(3), which, according to § 26.205(a), are the individuals described in § 26.4(a). Unlike the minimum days off requirements, the maximum average work hours alternative establishes a uniform requirement for all individuals described in § 26.205(a) without regard for their assigned duties or the lengths of their shift schedules.

#### *Section 26.205(d)(7)(i)*

Licensees who elect to implement the requirements of § 26.205(d)(7)(i) must manage affected individuals' cumulative fatigue by limiting the number of hours they work each week to an average of 54 hours. The 54-hour average is computed over an averaging period of up to 6 weeks. As an averaging period ends, a licensee advances (i.e., adjusts forward) the beginning and end times and dates of the averaging periods by 7 consecutive calendar days. Licensees must describe in their FFD procedures, as required by new § 26.205(d)(8), the beginning and end times and days of the week for the averaging periods.

*Section 26.205(d)(7)(ii)*

Licensees implementing the maximum average work hours requirements in § 26.205(d)(7)(i) have an option under new § 26.205(d)(7)(ii) regarding how they count work hours, for purposes of computing an individual's average number of work hours, during an individual's overnight work shift. When a shift begins near the end of a calendar day and concludes during the next calendar day, licensees can treat the hours worked during that shift as if the hours were all worked on the day the shift started, or licensees can attribute the hours of the shift to the calendar days on which the hours were actually worked. For example, if an individual begins her 10-hour shift at 8:00pm on Sunday, then that shift would end at 6:00am on Monday. The licensee could consider all 10 hours as having been worked on the Sunday, or the licensee could count 4 hours worked on Sunday (from 8:00pm-12:00am) and 6 hours worked on Monday (from 12:00am-6:00am). The final rule and section IV. of this document refer to these two methods of counting the hours of an individual's overnight work shift under § 26.205(d)(7) as the "work hour counting systems."

*Section 26.205(d)(7)(iii)*

New § 26.205(d)(7)(iii) requires each licensee to document, in its FFD policies and procedures required by 10 CFR 26.27 and 10 CFR 26.203, which work hour counting system in § 26.205(d)(7)(ii) the licensee is using. As a general matter, good regulatory practice requires each licensee to clearly document its licensing basis, especially where the NRC's requirements offer the licensee one or more regulatory alternatives. If a licensee clearly and sufficiently documents its licensing basis, then the licensee can more easily determine, despite changes (as applicable) in personnel, procedures, or its design, whether the licensee continues to comply with its licensing basis and applicable NRC requirements. Effective documentation also allows the NRC to quickly and accurately determine the licensee's status of compliance and

affords the public an opportunity to understand the legal constraints to which that licensee is subject.

Section 26.27 requires licensees to establish written FFD policies and procedures, and 10 CFR 26.203(a) and (b) requires licensees to include in the § 26.27 written policies and procedures the specific policies and procedures for the management of fatigue, including the process for implementing the work hour controls in § 26.205. To ensure clarity in the regulations and each licensee's licensing basis, new § 26.205(d)(7)(iii) clearly establishes the licensee's (and applicant's) regulatory obligation to document in its FFD policies and procedures, required by § 26.27 and § 26.203(a) and (b), the work hour counting system the licensee is using.

#### *Section 26.205(d)(8)*

Under new § 26.205(d)(8), each licensee needs to explicitly state, in its FFD policies and procedures required by 10 CFR 26.27 and 10 CFR 26.203, the requirements with which it is complying: the minimum days off provisions in § 26.205(d)(3) or the maximum average work hours requirements in § 26.205(d)(7). Under 10 CFR 26.203(a) and (b), information concerning the process for implementing the maximum average work hours requirements would include, for instance, the beginning and end times and days of the week for the averaging periods. As with new § 26.205(d)(7)(iii), because licensees have the option of two cumulative fatigue management programs to implement, § 26.205(d)(8) establishes the licensee's (and applicant's) regulatory obligation to document in its FFD policies and procedures, required by § 26.27 and § 26.203(a) and (b), the requirements with which it will comply: the requirements in § 26.205(d)(3) or § 26.205(d)(7). Licensees are free to switch to the other set of legally-binding requirements, so long as the requirement of § 26.205(d)(8) is met.

Section 26.205(d)(8) was designated as § 26.205(d)(7)(ii) in the proposed rule. That provision of the proposed rule could have been read to require licensees to document their

election of requirements only if they implemented the alternative. By removing the requirement from § 26.205(d)(7) and establishing the requirement in a regulatory provision independent of the provisions concerning the alternative, the NRC ensures that all licensees document their election.

*Section 26.205(e)(1)(i)*

Section 26.205(e)(1) requires licensees to review the actual work hours and performance of individuals who are subject to this section for consistency with the requirements of § 26.205(c), so that licensees can determine if they are controlling the work hours of individuals consistent with the objective of preventing impairment from fatigue due to the duration, frequency, or sequencing of successive shifts. Section 26.205(e)(1)(i) requires the licensees to assess the actual work hours and performance of individuals whose actual hours worked during the review period exceeded an average of 54 hours per week in any shift cycle while the individuals' work hours are subject to the requirements of § 26.205(d)(3). The NRC is amending § 26.205(e)(1)(i) to require licensees to assess the actual work hours and performance of individuals whose actual hours worked during the review period exceeded an average of 54 hours per week in any averaging period of up to 6 weeks. The duration of the averaging periods is the same duration that the licensees use to control the individuals' work hours to comply with the requirements of § 26.205(d)(7). In some instances, the averaging period used to control individuals' work hours to comply with the requirements of § 26.205(d)(7) will be a partial averaging period of 1 or more full (*i.e.*, 7 consecutive calendar days) weeks but less than the duration of the licensee's normal full averaging period. Section 26.205(e)(1)(i) requires licensees to review the actual work hours and performance of individuals whose actual hours worked exceeded an average of 54 hours per week in any averaging period, regardless of whether the averaging period was a full or partial averaging period.

10 CFR 26.207 *Waivers and exceptions.*

Section 26.207 provides the criteria that licensees must meet to grant waivers and enact exceptions from the work hour requirements in § 26.205(d)(1) through (d)(5)(i). The NRC is making conforming changes to paragraphs within § 26.207 to ensure consistency between the implementation of the minimum days off requirements in § 26.205(d)(3) and the implementation of the maximum average work hours requirements in § 26.205(d)(7).

*Section 26.207(a)*

Section 26.207(a) permits licensees to grant waivers from the work hours requirements in § 26.205(d)(1) through (d)(5)(i) for conditions that meet the two criteria specified in § 26.207(a). The NRC is revising § 26.207(a) to authorize licensees to grant waivers from the work hours requirements in § 26.205(d)(7) if the criteria in § 26.207(a) are met.

*Section 26.207(b)*

Section 26.207(b) relieves licensees from the minimum days off requirements of § 26.205(d)(3) by allowing them to exclude shifts 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. The final rule amends § 26.207(b) to permit licensees to exclude from the maximum average work hours requirements of § 26.205(d)(7) the hours worked by security personnel during the actual conduct of NRC-evaluated force-on-force tactical exercises.

10 CFR 26.209 *Self-declarations.*

Section 26.209 requires licensees to take immediate action in response to a self-declaration by an individual who is working under, or being considered for, a waiver from the work hour controls in § 26.205(d)(1) through (d)(5)(i). The NRC is making a conforming change to § 26.209(a) to ensure consistency between the implementation of the minimum days off

requirements in § 26.205(d)(3) and the implementation of the maximum average work hours requirements in § 26.205(d)(7).

*Section 26.209(a)*

Section 26.209(a) is amended to address the situation in which an individual is performing, or being assessed for, work under a waiver of the requirements contained in § 26.205(d)(7) 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 § 26.4(a), except if the individual is required to continue performing those duties under other requirements in Chapter 1 of Title 10. If the subject individual must continue performing the duties listed in § 26.4(a) until relieved, then the licensee shall immediately take action to relieve the individual.

10 CFR 26.211 *Fatigue assessments.*

Section 26.211 requires licensees to conduct fatigue assessments under several conditions. The NRC is making conforming changes to paragraphs within § 26.211 to ensure consistency between the implementation of the minimum days off requirements in § 26.205(d)(3) and the implementation of the maximum average work hours requirements in § 26.205(d)(7).

*Section 26.211(b)(2)(iii)*

Section 26.211(b)(2)(iii) prohibits individuals from performing a post-event fatigue assessment if they evaluated or approved a waiver of the limits specified in § 26.205(d)(1) through (d)(5)(i) 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. The final rule amends § 26.211(b)(2)(iii) to prohibit individuals from

performing a post-event fatigue assessment if they evaluated or approved a waiver of the limits specified in § 26.205(d)(7) 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.

*Section 26.211(d)*

Section 26.211(d) prohibits licensees from concluding that fatigue has not degraded or will not degrade an 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 § 26.205(d)(1) or that the individual has had the minimum rest breaks required in § 26.205(d)(2) or the minimum days off required in § 26.205(d)(3) through (d)(5). The NRC is amending § 26.211(d) to include the maximum average work hours among the criteria that licensees may not solely rely on when concluding that fatigue has not degraded or will not degrade an individual's ability to safely and competently perform his or her duties.

## **V. Availability of Documents**

The following table lists documents that are related to this final rule and available to the public and indicates how they may be obtained. See the **ADDRESSES** section of this document on the physical locations and Web sites where the documents may be accessed.

DOCUMENT	PDR	WEB	NRC LIBRARY (ADAMS)
U.S. Nuclear Regulatory Commission, Regulatory Guide 5.73, "Fatigue Management For Nuclear Power Plant Personnel" (March 2009).	X		ML083450028
U.S. Nuclear Regulatory Commission, Generic Letter 82-12, "Nuclear Power Plant Staff Working Hours" (June 15, 1982).	X		ML082840762
PRM-26-5, Petition to Amend 10 CFR Part 26, "Fitness-for-Duty Programs," filed by the Nuclear Energy Institute (September 3, 2010).	X	Docket ID. NRC-2010-0304	ML102590440
Anthony R. Pietrangelo on Behalf of the Nuclear Energy Institute; Notice of Receipt of Petition for Rulemaking, 75 FR 65249 (October 22, 2010).		Docket ID. NRC-2010-0304	
Request for Enforcement Discretion filed by the Nuclear Energy Institute (September 23, 2010).	X		ML102710208
PRM-26-6, Petition to Amend 10 CFR Part 26, filed by Eric Erb (August 17, 2010).	X	Docket ID. NRC-2010-0310	ML102630127
Eric Erb; Notice of Receipt of Petition for Rulemaking, 75 FR 71368 (November 23, 2010).		Docket ID. NRC-2010-0310	
SECY-11-0003, Status of Enforcement Discretion Request and Rulemaking Activities Related to 10 CFR Part 26, Subpart I, "Managing Fatigue" (January 4, 2011).	X		ML103420201
SECY-11-0028, Options for Implementing an Alternative Interim Regulatory Approach to the Minimum Days Off Provisions of 10 CFR Part 26, Subpart I, "Managing Fatigue" (February 28, 2011).	X		ML110390077
EGM-09-008, "Enforcement Guidance Memorandum—Dispositioning Violations of NRC Requirements for Work Hour Controls Before and Immediately After a Hurricane Emergency Declaration" (September 24, 2009).	X		ML092380177
Staff Requirements – SECY-11-0003 – Status of Enforcement Discretion Request and Rulemaking Activities Related to 10 CFR Part 26, Subpart I, "Managing Fatigue" and SECY-11-0028 – Options for Implementing an Alternative Interim Regulatory Approach to the Minimum Days Off Provisions of 10 CFR Part 26, Subpart I, "Managing Fatigue" (March 24, 2011).	X		ML110830971
Updated Notice of Public Meeting to Discuss Part 26, Subpart I Implementation to Understand Unintended Consequences of the Minimum Day Off Requirements (November 15, 2010).	X		ML103160388
Summary of November 18, 2010, Public Meeting to Discuss Part 26, Subpart I Implementation to Understand Unintended Consequences of the Minimum Day Off Requirements (December 13, 2010).	X		ML103430557
Update – Notice of Public Meeting Regarding Part 26, Subpart I Minimum Days Off Requirements and Options Licensees May Implement to Receive Enforcement Discretion From These Requirements (December 30, 2010).	X		ML103550089

Summary of January 6, 2011, Public Meeting Regarding Part 26, Subpart I Minimum Days Off Requirements and Options Licensees May Implement to Receive Enforcement Discretion from these Requirements (February 3, 2011).	X		ML110280446
Notice of Public Meeting to Discuss Alternatives to the Part 26, Subpart I, Minimum Days Off Requirements (January 14, 2011).	X		ML110140315
Summary of January 25, 2011, Public Meeting to Discuss Alternatives to the Part 26, Subpart I, Minimum Days Off Requirements (February 3, 2011).	X		ML110340512
Sunshine Federal Register Notice of February 8, 2011, Commission Briefing on the Implementation of Part 26, 76 FR 5626 (February 1, 2011).	X		ML110200295
Transcript of February 8, 2011, Commission Briefing on the Implementation of Part 26.	X		ML110410169
Interim Enforcement Policy for Minimum Days Off Requirements, 76 FR 22802 (April 25, 2011).		Docket ID NRC-2011-0058	
Alternative to the Minimum Days Off Requirements; Proposed Rule, 76 FR 23208 (April 26, 2011).		Docket ID NRC-2011-0058	
Alternative to the Minimum Days Off Requirements; Proposed Rule; Correction, 76 FR 24831 (May 3, 2011).		Docket ID NRC-2011-0058	
Comments of Mr. Erik Erb (May 6, 2011).	X	Docket ID NRC-2011-0058	ML11130A113
Comments of the Union of Concerned Scientists (May 10, 2011).	X	Docket ID NRC-2011-0058	ML11132A013
Comments of Mr. Harry Sloan (May 23, 2011).	X	Docket ID NRC-2011-0058	ML11144A157
Comments of the Nuclear Energy Institute (May 25, 2011).	X	Docket ID NRC-2011-0058	ML11146A109
Comments of Mark Callahan (May 25, 2011).	X	Docket ID NRC-2011-0058	ML11146A110
Comments of Larry Lawson (May 26, 2011).	X	Docket ID NRC-2011-0058	ML11146A111
Comments of Dominion Resources Services, Inc. (May 27, 2011).	X	Docket ID NRC-2011-0058	ML11151A143
Comments of Entergy Operations, Inc and Entergy Nuclear Operations, Inc (May 27, 2011).	X	Docket ID NRC-2011-0058	ML11151A140
Comments of Arizona Public Service Company (May 27, 2011).	X	Docket ID NRC-2011-0058	ML11151A141
Comments of Tennessee Valley Authority (May 26, 2011).	X	Docket ID NRC-2011-0058	ML11153A044
PRM-26-5: Petition for Rulemaking; Consideration in the Rulemaking Process, 76 FR 28192 (May 16, 2011).		Docket ID NRC-2010-0304	
PRM-26-6: Petition for Rulemaking; Consideration in the Rulemaking Process, 76 FR 28191 (May 16, 2011).		Docket ID NRC-2010-0310	
Update, Notice of Public Meeting to Discuss Implementation Guidance for Cumulative Fatigue Requirements that will be Based on a Maximum 54 Hour Per Week Rolling Average (April 13, 2011).	X		ML11102A071

Summary Of April 27, 2011, Public Meeting to Discuss Implementation Guidance for Cumulative Fatigue Requirements that will be Based on a Maximum 54 Hour Per Week Rolling Average (May 16, 2011).	X		MI11126A366
Notice of Public Meeting to Discuss Implementation Guidance for Cumulative Fatigue Requirements that will be Based on a Maximum 54 Hour Per Week Rolling Average (April 29, 2011).	X		ML11119A200
Notice of Public Meeting to Discuss Implementation Guidance for Cumulative Fatigue Requirements that will be Based on a Maximum 54 Hour Per Week Rolling Average (May 17, 2011).	X		ML11139A193
Notice of Public Meeting to Discuss Implementation Guidance for Cumulative Fatigue Requirements that will be Based on a Maximum 54 Hour Per Week Rolling Average (June 6, 2011).	X		ML11144A133
Summary of June 1, 2011, Public Meeting to Discuss Implementation Guidance for Cumulative Fatigue Requirements that will be Based on a Maximum 54 Hour Per Week Rolling Average (June 13, 2011).	X		ML11164A008

## VI. Criminal Penalties

For the purposes of Section 223 of the Atomic Energy Act (AEA), as amended, the NRC is issuing this final rule that amends 10 CFR Part 26 under one or more of Sections 161b, 161i, or 161o of the AEA. Willful violations of the rule are subject to criminal enforcement. Criminal penalties as they apply to regulations in 10 CFR Part 26 are discussed in § 26.825.

## VII. Compatibility of Agreement State Regulations

Under the “Policy Statement on Adequacy and Compatibility of Agreement State Programs,” approved by the Commission on June 20, 1997, and published in the *Federal Register* on September 3, 1997 (62 FR 46517), this final rule is classified as compatibility “NRC.” Compatibility is not required for Category “NRC” regulations. The NRC program elements in this category are those that relate directly to areas of regulation reserved to the NRC by the AEA or the provisions of 10 CFR, and although an Agreement State may not adopt

program elements reserved to the NRC, it may wish to inform its licensees of certain requirements via a mechanism that is consistent with a particular State's administrative procedure laws but does not confer regulatory authority on the State.

### **VIII. Assessment of Federal Regulations and Policies on Families**

In accordance with Section 654 of the Treasury and General Government Appropriations Act, 1999 (Pub. L. 105-277), the NRC has assessed this action against the seven factors set forth in this act. The NRC has determined that this action will not negatively affect family well-being.

### **IX. Voluntary Consensus Standards**

The NRC is using this standard instead of the following voluntary consensus standard developed by the American Nuclear Society (ANS): American National Standards Institute (ANSI)/ANS-3.2-1988. The NRC has determined that using a Government-unique standard is justified. The NRC declined to use the ANS standard when the fatigue management provisions in Subpart I of 10 CFR Part 26 were adopted in 2008. (73 FR 16966; March 31, 2008, at 17170 (second and third column)). The alternative for managing cumulative fatigue through a maximum average work hours requirement in this final rule has no counterpart in ANSI/ANS-3.2-1988 that could be adopted to manage cumulative fatigue, and the NRC declines to reconsider its overall decision in the 2008 rulemaking not to adopt the fatigue management approach embodied in the ANS standard. Accordingly, the NRC concludes that there are no voluntary consensus standards that could be adopted in lieu of the adoption of the Government-unique standard in this final rule.

## **X. Finding of No Significant Environmental Impact: Environmental Assessment**

The Commission has determined under the National Environmental Policy Act of 1969, as amended, and the Commission's regulations in Subpart A of 10 CFR Part 51, that this final rule is not a major Federal action significantly affecting the quality of the human environment and, therefore, an environmental impact statement is not required. This final rule allows licensees of nuclear power reactors to use a different method from the one previously prescribed in the NRC's regulations for determining whether certain nuclear power plant workers must be afforded time off from work.

The NRC has determined that the alternative for determining time off does not significantly alter the likelihood that there will be an increase in fatigued workers causing operational problems or a radiological event, or being unable to properly perform their functions. The alternative provides affected licensees with a more-easily implemented approach for determining when subject individuals must be afforded the time off. The NRC recognizes that there are unusual potential circumstances in which the alternative requirement could be met and the schedule could be fatiguing. Such schedules include having only one in every nine days off or consistently working the maximum allowable hours, which would likely result in cumulative fatigue. However, the industry has stated that these unusual schedules are improbable. The NRC concludes that this alternative approach, together with other aspects of the rule that remain unchanged, provide reasonable assurance that licensees will manage cumulative fatigue in a manner that contributes to the protection of public health and safety and common defense and security. In addition, the alternative is expected to reduce scheduling constraints on certain safety-beneficial practices. Because the NRC's regulatory objective continues to be met under the alternative adopted in this final rule, there is no change in environmental impacts, during operation or while the nuclear power plant is in shutdown, as compared with the environmental impact of the minimum days off requirements.

The primary alternative to this action is the no-action alternative. The no-action alternative could result in a greater administrative burden on nuclear power plant licensees in complying with the minimum days off requirements, as compared with the alternative to the minimum days off requirements under the final rule. In addition, individuals subject to minimum days off requirements could personally believe that their quality of life and work conditions are less favorable under the no-action alternative, as compared with the alternative maximum average work hours requirements that could be selected under the final rule.

The no-action alternative provides little or no environmental benefit. In addition, the no-action alternative has led nuclear power plant licensees to use work scheduling approaches that, for example, reduce their capability to use the most knowledgeable workers in responding to plant events and conditions. This may provide less safety and greater risk as compared with the less burdensome scheduling approaches that licensees are allowed to use under the alternative to the minimum days off requirements under the final rule.

For these reasons, the NRC concludes that this rulemaking does not have a significant adverse impact on the environment. This discussion constitutes the environmental assessment for this final rule. The NRC received no comments on the draft environmental assessment in the proposed rule's SOC.

## **XI. Paperwork Reduction Act Statement**

This final rule increases the burden on licensees that implement the alternate method of managing cumulative fatigue. These licensees will incur a one-time burden to revise FFD procedures, modify their work hour tracking systems and individual work scheduling systems, and state in their FFD policies and procedures the cumulative fatigue management requirements and work hour counting system being used. The public burden for this information collection is estimated to average 11.7 hours per recordkeeper. Because the burden for this

information collection is insignificant, Office of Management and Budget (OMB) clearance is not required. Existing requirements were approved by the OMB Control Number 3150-0146.

Send comments on any aspect of these information collections to the Information Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet electronic mail to [Infocollects.Resource@nrc.gov](mailto:Infocollects.Resource@nrc.gov) and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0146), Office of Management and Budget, Washington, DC 20503.

### **Public Protection Notification**

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection unless the requesting document displays a currently valid OMB control number.

## **XII. Regulatory Analysis**

The NRC has not prepared a full regulatory analysis for this final rulemaking. The NRC has determined that the maximum average work hours requirement provides reasonable assurance that subject individuals are not impaired due to cumulative fatigue caused by excessive work hours. As such, adequate implementation of the alternative approach maintains reasonable assurance that persons subject to work hour controls can safely and competently perform their assigned duties and therefore meets the intent of the minimum days off requirement. The 2008 10 CFR Part 26 final rule contained a regulatory analysis to support the minimum days off requirement. Because the alternative approach offers licensees an option that is comparable to the minimum days off requirements in managing cumulative fatigue, the 2008 final rule regulatory analysis also supports this final rule.

Furthermore, both nuclear power plant licensees and individuals subject to the NRC's requirements in 10 CFR 26.205(d)(3) governing minimum days off derive substantial benefits by the NRC's adoption of the alternative approach for controlling cumulative fatigue through maximum average work hours that can be adopted by those licensees. In addition, the NRC concludes that providing an alternative maintains the ability of those licensees to continue using scheduling practices that have a positive safety benefit. The NRC's conclusions in this regard are based upon: 1) information presented by two petitioners for rulemaking seeking changes to the work hour controls in 10 CFR 26.205; 2) NEI's request for enforcement discretion of those same regulatory provisions in 10 CFR 26.205; 3) evidence gathered from stakeholders at the three public meetings; 4) analysis performed by the NRC staff and explained to the Commission in memoranda dated January 4, 2011, and February 28, 2011; and 5) comments received on the proposed rule. In the memoranda to the Commission, the NRC staff documented its evaluation of the options available to the Commission to address the concerns raised in the petitions for rulemaking and request for enforcement discretion. At the February 8, 2011, Commission briefing on the implementation of 10 CFR Part 26, stakeholders appeared to support the use of an expedited rulemaking process to address the issues presented by the industry. In view of all of this information, the NRC finds no added value in preparing a more detailed regulatory analysis for this final rule.

### **XIII. Regulatory Flexibility Certification**

Under the Regulatory Flexibility Act (5 U.S.C. 605(b)), the NRC certifies that this final rule will not have a significant economic impact on a substantial number of small entities. This final rule affects only licensees that do not fall within the scope of the definition of "small entities" set forth in the Regulatory Flexibility Act or the size standards established by the NRC (10 CFR 2.810).

#### **XIV. Backfitting**

The NRC has determined that the Backfit Rule, 10 CFR 50.109, does not apply to this final rule, nor is the final rule inconsistent with any of the finality provisions in 10 CFR Part 52. The final rule, in 10 CFR 26.205(d)(7), provides nuclear power plant licensees with an alternative for compliance with the controls in 10 CFR 26.205(d)(3) governing minimum days off for certain nuclear power plant workers. Licensees are free to comply with either the requirements governing minimum days off or with the alternative requirements in 10 CFR 26.205(d)(7). The NRC concludes that a backfit analysis is not required for this final rule because this final rule does not contain any provisions that constitute backfitting.

The final rule is not inconsistent with any finality provisions in 10 CFR Part 52. No standard design certification rule or standard design approval issued under 10 CFR Part 52, or currently being considered by the NRC, addresses FFD requirements in 10 CFR Part 26. Accordingly, there are no issues resolved in those design certification rules or design approvals that would be within the scope of the cumulative fatigue controls in this final rule. In addition, the NRC has not issued any combined licenses under 10 CFR Part 52. Hence, there are currently no holders of combined licenses who would be protected by applicable issue finality provisions. The NRC concludes that this final rule does not contain any provisions that would be inconsistent with any of the finality provisions in 10 CFR Part 52

#### **XV. Congressional Review Act**

In accordance with the Congressional Review Act of 1996, the NRC has determined that this action is not a major rule and has verified this determination with the Office of Information and Regulatory Affairs of OMB.

## List of Subjects in 10 CFR Part 26

Alcohol abuse, Alcohol testing, Appeals, Chemical testing, Drug abuse, Drug testing, Employee assistance programs, Fitness for duty, Management actions, Nuclear power reactors, Protection of information, Reporting and recordkeeping requirements.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended; the Energy Reorganization Act of 1974, as amended; and 5 U.S.C. 552 and 553, the NRC is adopting the following amendments to 10 CFR Part 26.

### PART 26 – FITNESS FOR DUTY PROGRAMS

1. The authority citation for part 26 continues to read as follows:

**Authority:** Secs. 53, 81, 103, 104, 107, 161, 68 Stat. 930, 935, 936, 937, 948, as amended, sec. 1701, 106 Stat. 2951, 2952, 2953 (42 U.S.C. 2073, 2111, 2112, 2133, 2134, 2137, 2201, 2297f); secs. 201, 202, 206, 88 Stat. 1242, 1244, 1246, as amended (42 U.S.C. 5841, 5842, 5846).

2. Section 26.203 is amended by revising paragraph (d)(2), the introductory text of paragraph (e)(1), and paragraphs (e)(1)(i) and (e)(1)(ii), to read as follows:

#### § 26.203 General provisions.

	*	*	*	*	*
(d)	*	*	*		

(2) For licensees implementing the requirements of § 26.205(d)(3), records of shift schedules and shift cycles, or, for licensees implementing the requirements of § 26.205(d)(7), records of shift schedules and records showing the beginning and end times and dates of all averaging periods, of individuals who are subject to the work hour controls in § 26.205;

\* \* \* \*

(e) \* \* \*

(1) A summary for each nuclear power plant site of all instances during the previous calendar year when the licensee waived one or more of the work hour controls specified in § 26.205(d)(1) through (d)(5)(i) and (d)(7) for individuals described in § 26.4(a). The summary must include only those waivers under which work was performed. If it was necessary to waive more than one work hour control during any single extended work period, the summary of instances must include each of the work hour controls that were waived during the period. For each category of individuals specified in § 26.4(a), the licensee shall report:

(i) The number of instances when each applicable work hour control specified in § 26.205(d)(1)(i) through (d)(1)(iii), (d)(2)(i) and (d)(2)(ii), (d)(3)(i) through (d)(3)(v), and (d)(7) was waived for individuals not working on outage activities;

(ii) The number of instances when each applicable work hour control specified in § 26.205(d)(1)(i) through (d)(1)(iii), (d)(2)(i) and (d)(2)(ii), (d)(3)(i) through (d)(3)(v), (d)(4) and (d)(5)(i), and (d)(7) was waived for individuals working on outage activities; and

\* \* \* \* \*

3. Section 26.205 is amended by revising paragraphs (b)(5), (d)(4), (d)(5)(i), (d)(5)(ii), and (e)(1)(i) and the introductory text of paragraph (d)(3), and adding new paragraphs (d)(7) and (d)(8) to read as follows:

**§ 26.205 Work hours.**

\* \* \* \* \*

(b) \* \* \*

(5) Incidental duties performed off site. Licensees may exclude from the calculation of an individual's work hours unscheduled work performed off site (e.g., technical assistance provided by telephone from an individual's home), provided the total duration of the work does not exceed a nominal 30 minutes during any single break period. For the purposes of compliance with the minimum break requirements of § 26.205(d)(2), and the minimum days off requirements of § 26.205(d)(3) through (d)(5) or the maximum average work hours requirements of § 26.205(d)(7), such duties do not constitute work periods, work shifts, or hours worked.

\* \* \* \* \*

(d) \* \* \*

(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 workhours in § 26.205(d)(7). For the purposes of this section, a day off is defined as a calendar day during which an individual does not start a work shift. 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.

\* \* \* \* \*

(4) During the first 60 days of a unit outage, licensees need not meet the requirements of § 26.205(d)(3) or (d)(7) for individuals specified in § 26.4(a)(1) through (a)(4), while those individuals are working on outage activities. However, the licensee shall ensure that the individuals specified in § 26.4(a)(1) through (a)(3) have at least 3 days off in each successive (i.e., non-rolling) 15-day period and that the individuals specified in § 26.4(a)(4) have at least 1 day off in any 7-day period;

(5) \* \* \*

(i) During the first 60 days of a unit outage or a planned security system outage, licensees need not meet the requirements of § 26.205(d)(3) or (d)(7). However, licensees shall ensure that these individuals have at least 4 days off in each successive (i.e., non-rolling) 15-day period; and

(ii) During the first 60 days of an unplanned security system outage or increased threat condition, licensees need not meet the requirements of § 26.205(d)(3), (d)(5)(i), or (d)(7).

\* \* \* \* \*

(7) Licensees may, as an alternative to complying with the minimum days off requirements in § 26.205(d)(3), comply with the requirements for maximum average work hours in this paragraph.

(i) Individuals may not work more than a weekly average of 54 hours, calculated using an averaging period of up to six (6) weeks, which advances by 7 consecutive calendar days at the finish of every averaging period.

(ii) For purposes of this section, when an individual's work shift 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 as if they were all worked on the day the shift started, or attribute the hours to the calendar days on which the hours were actually worked.

(iii) Each licensee shall state, in its FFD policy and procedures required by § 26.27 and § 26.203(a) and (b), the work hour counting system in § 26.205(d)(7)(ii) the licensee is using.

(8) Each licensee shall state, in its FFD policy and procedures required by § 26.27 and § 26.203(a) and (b), the requirements with which the licensee is complying: the minimum days off requirements in § 26.205(d)(3) or maximum average work hours requirements in § 26.205(d)(7).

(e) \* \* \*

(1) \* \* \*

(i) Individuals whose actual hours worked during the review period exceeded an average of 54 hours per week in any shift cycle while the individuals' work hours are subject to the requirements of § 26.205(d)(3) or in any averaging period of up to 6 weeks, using the same averaging period durations that the licensee uses to control the individuals' work hours, while the individuals' work hours are subject to the requirements of § 26.205(d)(7);

\* \* \* \* \*

4. Section 26.207 is amended by revising the introductory text of paragraph (a), and paragraph (b), to read as follows:

**§ 26.207 Waivers and assessments.**

(a) *Waivers.* Licensees may grant a waiver of one or more of the work hour controls in § 26.205(d)(1) through (d)(5)(i) and (d)(7), as follows:

\* \* \* \* \*

(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 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.

\* \* \* \* \*

5. Section 26.209 is amended by revising paragraph (a) to read as follows:

**§ 26.209 Self-declarations.**

(a) If an individual is performing, or being assessed for, work under a waiver of one or more of the requirements contained in § 26.205(d)(1) through (d)(5)(i) and (d)(7) 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 § 26.4(a),

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 § 26.4(a) until relieved, the licensee shall immediately take action to relieve the individual.

\* \* \* \* \*

6. Section 26.211 is amended by revising paragraphs (b)(2)(iii) and (d) to read as follows:

**§ 26.211 Fatigue assessments.**

\* \* \* \* \*

(b) \* \* \*

(2) \* \* \*

(iii) Evaluated or approved a waiver of one or more of the limits specified in § 26.205(d)(1) through (d)(5)(i) and (d)(7) for any of the individuals who were performing or directing (on site) the work activities during which the event occurred, if the event occurred while such individuals were performing work under that waiver.

\* \* \* \* \*

(d) The licensee may not conclude that fatigue has 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 § 26.205(d)(1), the individual has had the minimum breaks required in § 26.205(d)(2) or minimum days off required in § 26.205(d)(3) through (d)(5), as applicable, or the individual's hours worked have not exceeded the maximum average number of hours worked in § 26.205(d)(7).

\* \* \* \* \*

Dated at Rockville, Maryland, this 15<sup>th</sup> day of July, 2011.

For the Nuclear Regulatory Commission.

**/RA/**

\_\_\_\_\_  
Martin J. Virgilio  
Acting Executive Director  
for Operations

\* \* \* \* \*

(d) The licensee may not conclude that fatigue has 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 § 26.205(d)(1), the individual has had the minimum breaks required in § 26.205(d)(2) or minimum days off required in § 26.205(d)(3) through (d)(5), as applicable, or the individual's hours worked have not exceeded the maximum average number of hours worked in § 26.205(d)(7).

\* \* \* \* \*

Dated at Rockville, Maryland, this 15<sup>th</sup> day of July, 2011.

For the Nuclear Regulatory Commission.

**/RA/**  
Martin J. Virgilio  
Acting Executive Director  
for Operations

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