



DOCKETED  
USNRC

May 10, 2011

May 11, 2011 (9:00 am)

Secretary  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001  
Attn: Rulemakings and Adjudications Staff

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

**SUBJECT: Docket ID NRC-2011-0058: Comments on Alternative to  
Minimum Days Off Requirements**

Comments submitted via [www.regulations.gov](http://www.regulations.gov)

Good Day:

In response to the proposed rule published in the *Federal Register* (Vol. 76, No. 80, April 26, 2011, pp. 23208-23218), I am submitting these comments on behalf of the Union of Concerned Scientists (UCS).

UCS has longstanding concerns about nuclear plant employees working excessive hours because of the potential for increased mistakes caused by fatigue. By letter dated March 18, 1999, UCS submitted to NRC Chairman Shirley Jackson our report titled *Overtime and Staffing Problems in the Commercial Nuclear Power Industry*. I participated in many of the public meetings conducted by the NRC staff during the rulemaking process for the petition for rulemaking submitted by Barry Quigley in September 1999 seeking the codification of regulatory guidance on working hour limits.

**UCS supports the proposed rule.** We are pleased that the NRC opted to address problems with the working hours rule via a rulemaking process rather than via blanket enforcement discretion.

Here are our specific comments on the proposed rule:

1. The proposed rulemaking would provide an alternate means of managing worker fatigue. The existing rule achieves this goal by requiring select workers to average at least two days off for non-security force personnel and at least three days off for security force personnel per week averaged over six-week period. The proposed rulemaking would limit these workers to working no more than an average of 54 hours per week averaged over six-week period. UCS supports this alternate means of protecting against worker fatigue for the following primary reasons:
  - a. The different criteria in the existing rule for security force personnel and for operators, maintenance workers, and radiation protection staff had little scientific

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foundation and made little rational sense. If humans require an average of three days off per week for adequate protection against fatigue, then human operators, human maintenance workers, and human radiation protection staffers should also be required to average three days off per week. Conversely, if humans do not require an average of three days off per week, then human security force personnel would be adequately protected against fatigue with an average of two days off per week. The proposed alternate method applies the same 54-hour per week average to all humans, regardless of whether they work on the security force or in the control room. This one-hazard, one-rule approach is the scientifically-defensible way to address worker fatigue.

- b. The proposed 54-hour per week average limit would allow workers to work seven days a week, 52 weeks a year. For example, a worker could work six 8-hour shifts and one 6-hour shift every week of the year and comply with the 54-hour average. This no-days-off possibility appears to undermine the worker fatigue goal of the rule. However, Dr. David Dinges addressed this point during the Commission briefing conducted on February 8, 2011. Dr. Dinges, from the University of Pennsylvania School of Medicine, said, "...*what we find over and over again is people will sleep half the time off duty you give them. If you give them 16 hours off, they'll sleep eight. If you give them 12 hours off, they'll sleep six. On average it's consistent over and over.*"<sup>1</sup> Thus, the hypothetical worker working six 8-hour shifts and one 6-hour shift every week on an indefinite basis will likely sleep for eight or more hours each day and will thus be protected against fatigue.

Workers on 12-hour shifts, which are standard in the industry, 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 proposed alternate provision thus provides protection against performance impairment caused by worker fatigue that is comparable to that provided by the current provision.

2. The language under label Section 26.205(d)(7) in the second column on page 23212 of the *Federal Register* notice states:

This would be a new section governing maximum average work hours for subject individuals, with which licensees could voluntarily choose to comply as an alternative to complying with comparable provisions in § 26.205(d)(3). Licensees who choose to comply with this alternative would nonetheless comply with all

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<sup>1</sup> See page 99, lines 18-21 of NRC transcript online at <http://www.nrc.gov/reading-rm/doc-collections/commission/tr/2011/20110208.pdf>

requirements in § 26.205 other than the minimum days off requirements in § 26.205(d)(3).

Existing § 26.205(d)(4) controls work hours during a unit outage, with a different set of work restrictions in effect during and after the first 60 days of an outage.. The proposed rule would revise this section to allow licensees to apply the 54-hour per week criterion during the first 60 days of a unit outage, but not afterwards. Instead, the minimum days off criteria be applied to workers after the first 60 days of a unit outage. Thus, the proposed rule would allow licensees to apply the 54-hour per week criterion during reactor operation and the first 60 days of a unit outage, but require them to revert to the minimum days off criteria during outages lasting longer than 60 days. We believe the 54-hour per week criterion should be permissible both during and after the first 60 days of a unit outage.

Sincerely,

A handwritten signature in black ink that reads "David A. Lochbaum". The signature is written in a cursive, flowing style.

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# PUBLIC SUBMISSION

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**Docket:** NRC-2011-0058  
Alternative Controls Governing Minimum Time Off

**Comment On:** NRC-2011-0058-0001  
Alternative to Minimum Days Off Requirements

**Document:** NRC-2011-0058-DRAFT-0002  
Comment on FR Doc # 2011-09925

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## Submitter Information

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**Submitter's Representative:** David Lochbaum  
**Organization:** Union of Concerned Scientists

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## General Comment

See attached file(s)

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## Attachments

**NRC-2011-0058-DRAFT-0002.1:** Comment on FR Doc # 2011-09925

## Rulemaking Comments

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**From:** Gallagher, Carol  
**Sent:** Wednesday, May 11, 2011 8:32 AM  
**To:** Rulemaking Comments  
**Subject:** Comment on Proposed Rule - Alternative to Minimum Days Off Requirements  
**Attachments:** NRC-2011-0058-DRAFT-0002.pdf

Van,

Attached for docketing is a comment from David Lochbaum on the above noted proposed rule (3150-AI94; 76 FR 23208) that I received via the regulations.gov website on 5/10/11.

Thanks,  
Carol