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CORRESPONDENCE CONTROL TICKET

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**ADDRESSEE:** CHRM Dale Klein

**SUBJECT:** Concerns SRM, SECY-06-0244 - Final Rulemaking - 10 CFR Part 26, Fitness-For-Duty Program

**ACTION:** Appropriate

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NUCLEAR ENERGY INSTITUTE

Marvin S. Fertel
SENIOR VICE PRESIDENT AND
CHIEF NUCLEAR OFFICER

May 8, 2007

The Honorable Dale E. Klein
Chairman
U.S. Nuclear Regulatory Commission
Mail Stop O 16 C1
Washington, DC 20555-0001

**Subject:** Staff Requirements, SECY-06-0244 - Final Rulemaking - 10 CFR Part 26, Fitness-For-Duty Programs

**Project Number: 689**

Dear Chairman Klein:

This letter is a follow-up to the letter we sent to the Commission on April 24, 2007, informing you that the industry has a significant concern with the changed language from the draft final rule concerning outage work hour requirements. This letter provides quantitative information on the impact of the rule language change for outage work hour controls.

In the Staff Requirements Memorandum (M070417B) (SRM) approving the Part 26 final rule, the Commission changed a requirement for outage work hour controls by modifying the draft final rule language. Specifically, the Commission directed the staff to replace "working on unit outage activities" with "solely performing outage activities" in the first sentence of § 26.205(d)(4) and any other pertinent sections to clarify the requirements (SRM Attachment #15). This language change (1) will result in a significant negative impact on plant outage resources and/or schedule, (2) will lead to unequal distribution of work hours between operating unit and outage unit personnel, a violation of collective bargaining agreements at many utilities, and (3) could have a negative impact on nuclear safety.

Specific site personnel at multi-unit sites usually work on both units, regardless of the operating status of each unit. For example, maintenance, operations, chemistry, radiation protection, fire brigade and security personnel work on a site-wide basis performing activities on both units. Therefore, adoption of the requirement (i.e., work hour controls based on work solely on outage activities), will significantly restrict the number of personnel that can be placed under the outage work hours controls. This change can have a negative impact on nuclear safety due the complexity

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of command and control introduced by operating under two different work hour controls: outage and non-outage work hour controls. Continuity and teamwork would be affected due to different shift rotations reflecting different days-off requirements. Response to an event on the operating unit could adversely impact nuclear safety when determining whether outage personnel can respond to an operating unit event, because some individuals may be concerned about intentionally violating the more restrictive non-outage work hour controls. Also, this change will require more utility employees to work on the operating unit and more contractors on the outage unit, increasing the need for oversight of contractors.

NEI has conducted a survey of five fleet utilities that operate multi-unit sites to determine the impact that this requirement would have on outage resources and duration. The impact for a "typical" dual unit site is tabulated and discussed in the enclosure to this letter. As seen in the enclosure, this new requirement will have a significant impact on outage resources and/or duration. The "typical" dual-unit site would need 53 additional full-time staff, or if additional personnel are not available, the outage would be extended 4 days. The impact to the industry due to outage extensions is estimated to be more than $190 million per year. This is a substantial impact with no significant improvement in nuclear safety, and with the unintended consequence of a potential negative impact on nuclear safety as described above.

Furthermore, this requirement would necessitate the addition of licensed personnel. The addition of licensed personnel to the site requires an extensive training, qualification, and licensing process that takes about two years for reactor operators and three years for senior reactor operators. The work hour controls are to be implemented within 18 months of the publication of the final rule in the *Federal Register*. New licensed personnel may not be available when required by the final rule implementation date. This requirement would necessitate the hiring of 144 new licensed operators.

The industry and the NRC staff have been working on implementation guidance for this rule for several months. NEI has developed NEI 06-11 "Fatigue Management for Power Reactors (Draft)," and will seek NRC endorsement of the final version by an NRC regulatory guide. The draft document has been provided to the NRC for comment. The NRC has held two public meetings on this document to discus the contents and several challenging implementation issues have already been addressed.

Industry reviews of plant operating and human performance data provided to the NRC during this rulemaking have shown no correlation between fatigue and actual human performance at power reactor sites. In this regard, we believe that we can also adequately address any concerns about outage work hour controls (without the phrase "solely performing outage activities") in the guidance document, as we have done with other implementation issues. The industry believes that criteria in the guidance document that address factors such as outage tasks, frequency of outage tasks, and duration of outage tasks can lead to acceptable implementation guidance.

In conclusion, we recommend the Commission revise the SRM, or otherwise direct the staff to use the term "working on outage activities." Further, we ask the Commission to direct the staff to work with the industry and other stakeholders on regulatory guidance needed specifically for work hours controls during outage conditions.

If you have any questions, please contact me at 202.739.8125, msf@nei.org, or Jack Roe at 202.739.8138, jwr@nei.org.

Sincerely,

Marvin S. Fertel

Enclosure

c: The Honorable Edward McGaffigan Jr., Commissioner, NRC
The Honorable Jeffrey S. Merrifield, Commissioner, NRC
The Honorable Gregory B. Jaczko, Commissioner, NRC
The Honorable Peter B. Lyons, Commissioner, NRC
Mr. Luis A. Reyes, Executive Director for Operations, NRC
NRC Document Control Desk

**Work Hour Controls Language Change Impact Table**
**Typical Dual Unit Site**

If the phrase "solely working on outage activities" is included in the final rule, we estimate the following resource or schedule impact will occur for a "typical" dual-unit site with one unit in an outage. We have used a nominal 30 day outage for this analysis.

The "typical" dual-unit site would need 53 additional personnel, or if additional personnel are not available, the outage would be extended 4 days. This is a substantial impact with no significant improvement in nuclear safety

Table 1 is the change in the days off requirements from outage to non-outage work hour controls for each work group on 12-hour shifts.
Table 2 is the increase in number of days off from outage to non-outage work hour controls for each work group on 12-hour shifts for a nominal 30 day outage.
Table 3 is the additional personnel required to maintain the outage schedule.
Table 4 is outage schedule extension if additional personnel are not available. The tables 3 and 4 are either/or and not additive.

**Table 1: Work Hour Controls Change from Outage to Non-Outage**

| **Group** | **12- hour shift**<br>**Days off** |
|---|---|
| Maintenance | From 1 day off per week to 2 days off per week |
| Operations, HP, Chemistry, Fire Brigade | From 3 days off in each successive (i.e., non-rolling) 15-day period to 2.5 days off per week |
| Security | From 4 days off in each successive (i.e., non-rolling) 15-day period to 3 days off per week |

**Table 2: Increase in Number of Days Off from Outage to Non-Outage Work Hour Controls For A 30 Day Outage**

| **Group** | **12- hour shift**<br>**Days off** |
|---|---|
| Maintenance | Increase of 4 days off for the nominal 30 day outage<br>(Outage days off is 1 day per week times 4 weeks for a total of 4 days, non-outage is 2 days off per week times 4 weeks for a total of 8 days. The difference is 4 days.) |
| Operations, HP, Chemistry, Fire Brigade | Increase of 4 days off for the nominal 30 day outage<br>(Outage days off is 3 days off in each successive (i.e., non-rolling) 15-day times 2 for the two 15-day periods for a total of 6 days, non-outage is 2.5 days off per week times 4 weeks for a total of 10 days. The difference is 4 days.) |
| Security | Increase of 4 days off for the nominal 30 day outage<br>(Outage days off is 4 days off in each successive (i.e., non-rolling) 15-day times 2 for the two 15-day periods for a total of 8 days, non-outage is 3 days off per week times 4 weeks for a total of 12 days. The difference is 4 days.) |

**Table 3: Additional Personnel Required to Maintain Outage Schedule**

| Group | Additional Personnel Required | Discussion – Why the increase for additional personnel |
|---|---|---|
| Operations | 9 | As a practical matter, the majority of Operations will work on both outage tasks and operating reactor tasks. Members of the Fire Brigade are in Operations and therefore may respond to a fire in the operating unit. The change in days off for Operations would increase from 3 days off in each successive (i.e., non-rolling) 15-day period to 2.5 days off per week.<br><br>In order to provide for the increased number of days off, it would be necessary to add another crew of nine operators (five non-licensed operators, two reactor operators, two senior reactor operators). |
| Maintenance | 31 | The change in days off for Maintenance would increase from 1 day off per week to 2 days off per week.<br><br>Due to some of the workforce not being assigned to a specific unit, some assignments being dual-unit and the complexity of tracking job responsibilities, it would be necessary to add 7 Electricians, 8 Mechanics, 7 I & C Technicians and 9 Helpers to ensure that the utility can support the current workload on the operating unit with the other unit in an outage. |
| Health Physics or Chemistry duties required as a member of the on-site ERO minimum shift complement | HP: 2<br><br>Chemistry: 1 | The change in days off for Health Physics or Chemistry would increase from 3 days off in each successive (i.e., non-rolling) 15-day period to 2.5 days off per week.<br><br>This change would require us to limit the hours of the emergency response organization (ERO) minimum shift complement to non-outage controls. The impact would be 2 technicians for HP and 1 technician for Chemistry. |
| Fire Brigade Leader | None | Fire brigade included in Operations. |
| Security | 10 | The change in days off for Security would increase from 4 days off in each successive (i.e., non-rolling) 15-day period to 3 days off per week.<br><br>It would be necessary to add 10 personnel to support the increased vehicular search and escort requirements will be required on multiple shifts with security placed on non-outage work hour controls. |
| TOTAL ADDITIONAL PERSONNEL | 53 | These personnel would be full-time employees added to the site staff. They would need to be trained and qualified for the positions. The reactor operators and senior reactor operators would need to be licensed. |

**Table 4: Outage Schedule Extension if Additional Personnel Are Not Available**

| Group | Extension of Outage if additional personnel are not available | Discussion of why the extension of Outage if additional personnel are not available |
|---|---|---|
| Operations | 4 days | The increase of 4 days off for the nominal 30 day outage will impact the outage 4 days if additional Operations personnel are not available. Operations resources will be critical path. (See Table 2) |
| Maintenance | Up to 4 days | The increase of 4 days off for the nominal 30 day outage will impact the outage up to 4 days if additional Maintenance personnel are not available. (See Table 2)<br><br>It would be necessary to establish dual-unit tasks and operating unit tasks. Non-outage and outage unit personnel would be separated. The work hours of people that work on the outage unit, but give limited support to the non-outage unit, would be reduced to couple with the non-outage work hour controls. |
| Health Physics or Chemistry duties required as a member of the on-site ERO minimum shift complement | None | The change in days off for Health Physics or Chemistry would not impact the outage, since only 3 people are limited to non-outage work hours. |
| Fire Brigade Leader | None | Counted in Operations response. |
| Security | 1 day | It is mandatory to meet the minimum requirements for armed responders and other security personnel as stated in the Site Security Plan at all times. We can not reduce the staffing level and extend the outage.<br><br>The security staff's ability to process vehicular moves and equipment within the facility will impact large component moves such as large motors, turbine generator equipment, ISI equipment, etc. This will also require the utility to maintain support personnel on site longer pre-outage and post-outage for equipment ingress and egress from the unit. |
| OUTAGE EXTENSION | 4 days due to Operations and Maintenance | Operations and potentially Maintenance resources will be critical path under the "solely working on outage activities" version of the rule. |