

## Concept for Discussion

### Work Hour Controls for Cumulative Fatigue Management

#### Basic Requirements for Enforcement Discretion for Violations of 10 CFR 26.205(d)(3)

In lieu of the requirements of § 26.205(d)(3), the following requirements apply to the work hours of covered individuals during normal (e.g., non-outage/emergency) plant operations.

- Individuals' work hours shall not exceed an average of 54 hours per week in any 6-week averaging period during normal operations.
- Licensees shall have a performance objective for individuals' work hours not to exceed an average of 48 hours per week during normal operations in any calendar quarter.
- Individuals' work hours shall not exceed an average of 48 hours per week during normal operations in any 2 consecutive calendar quarters.
- Normal operations are any period not explicitly excluded from the calculation of an average.

Note: Periods specifically excluded from the calculation of these averages during normal operations are:

- Shift turnover
- Within shift breaks and rest periods as described in § 26.205(b)(2)
- Unannounced emergency preparedness exercises and drills
- Incidental duties
- Increased threat condition (security only)
- NRC observed force-on-force tactical exercises (security only)
- Periods waived by NRC for common defense and security (security only)
- Declared plant emergencies
- Acts of nature that make access to a site unsafe

## Related and Conforming Changes to Subpart I Requirements

### Calculation of work hours:

- Incidental duties
  - For purposes of calculating work hours consistent with the interim policy for enforcement discretion, scheduled work that otherwise meets the criteria of incidental duties of § 26.205(b)(5) may be considered incidental duties and excluded from the calculation of individuals' work hours.
- Shift Turnover
  - For purposes of calculating work hours consistent with the interim policy for enforcement discretion, a period of not more than 15 minutes between the end of shift turnover and the beginning of the scheduled work period (e.g. when shift turnover ends earlier than planned) may be considered to be shift turnover and excluded from the calculation of individuals' work hours.
  - Licensees may exclude one period of shift turnover from the calculation of individuals' work hours, either at the beginning or end of the shift, but not both.
  - The exclusion of shift turnover from the calculation of an individual's work hours shall otherwise be limited in accordance with § 26.205(b)(1).
- Force-on-force tactical exercises
  - For purposes of calculating the work hours of individuals who perform security duties described in § 26.4(a)(5), licensees may exclude from the calculation of individuals' 6-week and quarterly averages, hours worked during the actual conduct of NRC-evaluated force-on-force tactical exercises.
- Unannounced emergency preparedness drills and exercises
  - Consistent with the current requirements of § 26.205(b)(4), licensees may exclude from the calculation of individuals' work hours the time the individual works unscheduled work hours for the purpose of participating in the actual conduct of an unannounced emergency preparedness drill or exercise.

### Reviews:

- For purposes of conducting reviews consistent with the interim policy for enforcement discretion, licensees need not meet the requirement of § 26.205(e)(1)(i) to include in the review those individuals whose work hours exceed an average of 54 hours per week in any shift cycle while the individual's work hours were subject to the requirements of § 26.205(d)(3). Rather, the licensee shall review the number of times individuals exceed an average of 48 hours per week in any calendar quarter for consistency with the requirements of § 26.205(c) and shall review waivers of the requirement for individuals not to exceed an average of 48 hours per week in any two consecutive calendar quarters for consistency with the requirements of § 26.207(a)(2).

### Waivers:

- Licensees may issue a waiver, in accordance with the requirements in § 26.207(a), from the requirement for individuals to not exceed an average of 54 hours per week in a 6-week

averaging period and the requirement for individuals to not exceed a calendar quarter average of 48 hours per week in any 2 consecutive calendar quarters.

Recordkeeping:

- For the purposes of conducting reviews consistent with the interim policy for enforcement discretion, licensees need not comply with the requirement in § 26.203(d)(2) to maintain records of shift cycles of individuals subject to the work hour controls in § 26.205. Rather, licensees shall retain for at least 3 years or the completion of all related legal proceedings, records showing the beginning and end dates of all 6-week and calendar quarter averaging periods.

Reporting:

- For the purposes of reporting consistent with the interim policy for enforcement discretion, licensees need not report waivers of the minimum day off requirements in § 26.205(d)(3). Rather, licensees shall include in their annual report submitted in accordance with the requirements of § 26.203(e), the number of instances the licensee waived the work hour controls limiting individuals' work hour averages to not more than 54 hours per week in any 6-week averaging period and to not exceed an average of 48 hours per week in any two consecutive calendar quarters. Reporting of these waivers shall be consistent with the § 26.203(e) requirements applicable to waivers of the minimum day off requirements in § 26.205(d)(3).

Unless explicitly replaced or amended by the above interim enforcement discretion policy, licensees shall comply with all requirements of Subpart I, as applicable.

## Implementation Guidance

### 6-Week Averaging Periods:

Licensees may implement 6-week averaging periods as consecutive, non-overlapping 6-week periods or may use a rolling 6-week averaging period. The use of rolling 6-week periods may preclude some, but not all, of the conditions described below that can result in partial 6-week averaging periods. A 6-week averaging period may begin in one calendar quarter and end in the subsequent quarter.

### Partial 6-week Averaging Periods:

- During partial 6-week averaging periods resulting from the start of planned outages (including refueling and security), licensees may comply with the requirement for an average of not more than 54 hours per week in a 6-week period on the pro-rata schedule described in Table 1.

Table 1. Schedule of Work Hour Limits Applicable to Partial 6-Week Averaging Periods Resulting from Specified Conditions.

| Part of 6-Week Averaging Period | Cumulative Work Hour Limit |
|---------------------------------|----------------------------|
| first 7 days                    | 72 hours                   |
| first 14 days                   | 132 hours                  |
| first 21 days                   | 180 hours                  |
| first 28 days                   | 228 hours                  |
| first 35 days                   | 276 hours                  |
| first 41 days                   | 312 hours                  |

Note: The pro-rata limits are based on a front-loaded schedule that would comply with the requirement to average not more than 54 hours per week. Specifically, for a full 6-week schedule, the pro-rata limits allow weekly work hours equivalent to: 72, 60, 48, 48, 48, and 48. The Table 1 limits are to be applied in conjunction with the work hour limits of 26.205(d)(1).

- Example 1 – An outage begins on day 15 of an averaging period creating a partial averaging period of 14 days. During the 14-day period preceding the outage, individuals could not exceed a total of 132 hours. In this instance individual work hours in days 1-14 would average 66 hours but would be deemed in compliance with the requirement not to exceed the 6-week average limit of 54 hours. The pro-rata basis remains consistent with 54-hour per week limit but provides the flexibility needed in this instance to conduct outage preparations. In addition, although the hours worked during the outage would be excluded from the calculation of the individual's quarterly average, the 14-day pro-rated period would be included.
- Example 2 – An outage begins on day 18 of an averaging period. As in example 1, individuals would not be able to exceed 132 hours in the first 14 days preceding the

outage. On days 15 thru 17 the applicable pro-rata limit would be “not more than 180 hours work in the first 21 days” but the limiting requirements would be the § 26.205(d)(1) work hour controls of not more than 16 hours work in any 24-hour period and not more than 26 hours work in any 48-hour period.

- Example 3 – An individual has worked the maximum hours permitted by the work hour limits for partial periods during the first 5 weeks of a partial period. In week 6 there can be no more than 6 work days (i.e., the 6-week period has to be truncated by at least 1 day to be a partial period). In this instance the individual would be limited to 36 hours’ work.
- Covered individuals need not meet the requirement to average not more than 54 hours of work per week during 6-week averaging periods that are truncated for the following reasons:
  - an unplanned unit outage,
  - a declared emergency, as defined in the licensee’s emergency plan, or
  - an act of nature [to be defined] that makes access to the site unsafe

Note: RIS 2011-[TBD] will provide guidance for control of work hours during periods of severe winds, such as hurricanes.

- Example 1: An unplanned outage occurs during week 3 of a 6-week averaging period. Individuals will not be required to have averaged fewer than 54 hours during weeks 1 and 2 because the unplanned outage eliminated the licensee’s flexibility to average over a 6-week period. The hours worked during weeks 1 and 2 will count in the quarterly average calculation but the subsequent hours worked during the outage will not count in the quarterly average.
- Covered security individuals need not meet the requirement to average not more than 54 hours of work per week during 6-week averaging periods that are truncated for the following reasons:
  - an unplanned security system outage
  - an increased threat condition

Note: The above guidance is based on the same rationale as the guidance for unplanned unit outages. The work hours of security personnel during security system outages and increased threat conditions need not be included in the calculation of the security officer’s quarterly average.

- Beginning or resuming covered duties:
  - Individuals beginning or resuming covered work for a licensee (e.g., either as a new or current contractor or employee) at a time other than the start of a 6-week averaging period shall be subject to the requirement for work hours to average not more than 54 hours per week in a 6-week period on the pro-rata basis for partial averaging periods described in Table 1.

Note: Individuals beginning covered duties shall:

- not have worked more than 48 hours in the 7 days preceding the start of covered work ,
  - not have worked more than 14 hours in any 24-hour period in the 7 days preceding the start of covered duties, and
  - not have rotated to or from night shift in the 3-days preceding the start of covered duties.
- Transitions from covered duties to non-covered duties
    - Individuals who transition from covered duties to non-covered duties before the end of a 6-week averaging period shall be subject to the requirement for work hours to average not more than 54 hours per week in a 6-week period on the pro-rata basis for partial averaging periods described in Table 1. The applicable limit shall be determined by the number of days in the averaging period the individual was subject to the requirements for covered workers.
    - Example: On day 31 of a 6-week averaging period an operator is reassigned from shift coverage in the control room to support a benchmarking initiative (i.e., a non-covered duty). The operator will be considered to be in compliance with the requirement to average not more than 54 hours per week in a 6-week period if he did not work more than a total of 228 hours in the first 28 days of the averaging period.
  - Extended absence
    - Extended absence (e.g., for vacation, maternity, disability) is not considered an interruption or truncation of a 6-week averaging period. Such absences are considered part of the averaging period.
  - Termination of Duties
    - Individuals whose 6-week averaging period is truncated because they no longer perform work for the licensee shall be subject to the requirement for work hours to average not more than 54 hours per week in a 6-week period on the pro-rata basis for the partial averaging periods described in Table 1.
  - End of a Calendar Quarter
    - The end of a calendar quarter does not truncate a 6-week averaging period. A 6-week averaging period may begin in one calendar quarter and end in the subsequent quarter.

Following Partial Averaging Periods:

- 6-week averaging periods truncated in accordance with the above guidance (e.g., by planned or unplanned outages, increased threat conditions, declared emergencies, acts of nature making access to the site unsafe) may be followed by the start of a new 6-week averaging period. At its own discretion, a licensee may choose not to truncate a 6-week

averaging period as permitted by these guidelines (e.g., in instances when the condition that caused the truncation is of short duration and resulted in a negligible increase in work hours). In such instances, all work hours shall be included in the 6-week averaging period, including those that would have otherwise been excluded.

Example: A forced outage occurs in weeks 9-10 of a quarter. The licensee will start a new 6-week averaging period on week 11 which will now end at week 16 (week 3 of the subsequent calendar quarter). In this instance the individual's work hours must comply with the limit of an average of not more than 54-hours per week during weeks 1-6 and in weeks 11-16. The individual's work hours during weeks 7 and 8 may exceed an average of 54 hours per week (need not meet the pro-rata schedule for partial periods) because the averaging period was truncated by an unplanned outage. For purposes of complying with the performance objective of quarterly work hours not exceeding a work hour average of not more than 48 hours per week the licensee would have to include all work hours in weeks 1-13, except those that occurred during the unplanned outage in weeks 9 and 10.

#### Quarterly Averages:

- Individuals' weekly average work hours for a quarter shall be calculated based on the total number of normal operations hours worked in the quarter during periods not explicitly excluded by the requirements for enforcement discretion and dividing by the calendar days on which the individual was a covered worker during normal operations periods not explicitly excluded by these requirements.
  - Example 1: During the quarter (91 days) the site is in an outage for 23 days. Hours worked during this outage period are excluded from the individual's total work hours for the quarter. The calculation of average weekly work hours is based on the remaining work hours divided by the remaining 68 (91-23) days in the quarter.
  - Example 2: An individual begins work as a covered worker at the beginning of week 5 in the quarter. The individual's weekly average for the quarter is based on his/her hours worked during weeks 5 – 13 and averaged over these 9 weeks.

#### Waivers

- Section 26.207(a)(2) requires that to the extent practicable, licensees rely on the granting of waivers only to address circumstances that could not have been reasonably controlled. The statement of considerations for this requirement state: "Licensees should take all reasonable care to ensure the use of waivers is minimized. Therefore, § 26.207(a)(2) prohibits the use of waivers in lieu of adequate staffing or proper work planning, for example, but would permit the use of waivers for circumstances that the licensee could not have reasonably controlled, which may include, but are not limited to, equipment failures or a sudden increase in the personnel attrition rate." Accordingly, the use of waivers from the requirements for individuals' work hour averages to not exceed an average of 54 hours per week in any 6-week averaging period and to not exceed an average of 48 hours per week in

any two consecutive calendar quarters should be consistent with requirements of, and statement of considerations for, § 26.207(a)(2).

### Summary of Enforcement Discretion Requirements for Partial Periods

| Partial Period Resulting From                                    | Calculation of 6-week Average  | Calculation of Quarterly Average   |
|--|--|--|
| Unplanned Plant Outages  | Not applicable   | Average work hours over non-outage days in quarter   |
| Unplanned Security System Outages or Increased Threat Conditions | Not applicable<br>(covered security personnel only)  |  |
| Planned Outages  | Pro-rate for partial period to not work more than:<br>72 hours work in the first 7 days<br>132 hours work in the first 14 days<br>180 hours work in the first 21 days<br>228 hours work in the first 28 days<br>276 hours work in the first 35 days<br>312 hours work in the first 41 days | Average work hours over the number of days in the quarter the individual is a covered worker |
| Beginning or resuming covered duties                             |  |  |
| Transition from covered duties                                   |  |  |
| Termination of assignment  |  |  |
| Extended Absence (e.g., disability, maternity)                   | Extended absence does not truncate the averaging period. Include absence period in average.  |  |