

Q. For a 100 day outage the licensee chooses to work the first 30 days on outage hours, the next 40 days on operating hours then the last 30 days on outage hours. Is this 100 day outage schedule appropriate?

A. By itself, no, this schedule would not comply with the regulations. Only during the first 60 days of a unit outage are individuals granted an outage relaxation of the MDO requirements. To work a schedule in which individuals could work outage hours after the initial 60 days of the unit outage, the licensee must ensure that individuals work no more than 48 hours in a 7 day period during the first 60 days. This would allow individuals to receive a 7 day exclusion to work after the 60th day on outage hours. See 10 CFR 26.205(d)(6).

From your question, during the intervening period between the 60th day and the 71st day, individuals may work:

- Normal operating hours that satisfy the Part 26 requirements and guidance
- Non-covered hours as long as there is a transition back to covered work per endorsed guidance

When a site is in an extended outage and passes the first 60 days of its unit outage prior to implementing Subpart I, this site is not eligible to use 10 CFR 26.205(d)(6) for that outage.

Q. In 26.4(c) individuals who report to the TSC and EOF are included into Subpart I excluding 26.205 thru 26.209. Since self-declarations are excluded for these workers (26.209) why are they included in 26.211 Fatigue Assessment. The only applicable fatigue assessment reasons are for cause and behavioral observation.

A. Self-declarations are not excluded for these workers. The provisions for self-declarations are included in 10 CFR 26.211. Although 10 CFR 26.209 is titled as self-declarations, it includes provisions for self-declarations only during waivers and is appropriate to be excluded, as waivers are also excluded for individuals who report to the TSC and EOF.

Q. What are the training requirements for a person who performs a fatigue assessment? The rule says only that the person performing the assessment must be trained under 26.209 and 26.23 are allowed to perform fatigue assessments. Neither of these describes fatigue assessment specific training requirements.

A. Correct, there are no additional rule based training requirements for the individuals performing fatigue-assessment.

Q. SOC page 17144 says "The NRC expects that in many cases transient workers would have days off between outages as they travel between nuclear power plant sites" Does this mean to imply that travel between sites can be considered to be restful or that during these travel days there is expected to be an opportunity for restorative rest.

A. The interpretation of travel in the question is taken out of context to the meaning of the Statements of Consideration. This passage was not meant to imply that travel is or is not fatiguing but that the time between outages is thought to be sufficient to allow the individual ample time for restorative rest in support of managing fatigue.

Q. Discuss 24 hr reportable events in 26.719.

A. A 24 hour report is required when any licensed person, FFD program person, or supervisor perform a significant violation of the licensee FFD policy or perform any intentional act that casts doubt on the integrity of the FFD program. An example of a significant violation is a conflict of interest when performing a fatigue assessment.

Q. Non-outage shift cycles can be any length between 1 and 6 weeks. By rule outage shift cycles are 15 days for MDO calcs. Can an outage shift cycle be planned to be shorter than 15 days as long as the appropriate MDO is maintained?

A. The 15 day period described in 10 CFR 26.205(d)(4) is not a shift cycle. The 15 days are a period in which the individual must have the required number of days off. Therefore, yes a shift cycle may be shorter than 15 days as long as the appropriate MDO are maintained. Likewise, the 7-day period required for individuals specified in 10 CFR 26.4(a)(4) is not a required shift cycle but an MDO requirement.

Q. Is the NRC considering a communication process when an inspection finding or a FAQ significantly impacts the way the industry has implemented a fatigue management rule requirement? Changing individual schedules at the last moment is not a good practice, for example the recent fuel handling discussions.

A. Any substantive questions that we are asked or issues based on inspection findings can be made public by first placing the question and its response in public ADAMS, then posting to the FFD FAQ webpage.

Q. Thoughts on “professional time,” the time spent working above and beyond a 40 hour week, which has typically been expected of supervisors and managers. For example shift managers attending management meetings, was the intent of the rule to end or curtail professional development?

A. Professional time has been considered in the development of the rule and is not discouraged. For instance, after-hours study time that is not required by the licensee has been excluded from the calculation of work-hours. Also, the work hour requirements allow individuals to work well beyond 40 hours per week. An individual might routinely work up to 54 hours a week under a number of different shift schedules, remembering that the minimum day off and break requirements also need to be attained.

Q. What is the NRC interpretation of support activities like scaffold, crane ops, insulation R&R, non-engineered coatings relative to if they would agree they are not covered functions?

A. Erecting scaffolding is not a covered duty. Crane operations will often be a covered duty, but may not be. Insulation repair or restoration may be a covered duty if performed on a safety-significant SSC. Non-engineering coatings are a maintenance function and can be considered to be covered work, again when performed on a safety-significant SSC.

Q. For contractors arriving at a single site utility, what are the specific requirements for identifying past work history, documenting past work history or any other regulatory required evidence of work history?

A. Licensees must make reasonable efforts to verify that individuals performing covered work are fit for duty. Before an individual starts performing covered work the licensee should inquire of the individual if they have had the appropriate number of days off in the preceding seven-day period.

Licensee employees and contractor/vendor personnel may go from an outage at one site to an outage at another site. When a licensee employee or contractor/vendor performs covered work for a licensee during two or more unit outages or security system outages (or a combination thereof), and the interval(s) between successive outages is less than 9 days, the receiving licensee should determine that the individual has had a 34-hour break period within the 9 days that precede the day on which the individual begins working for the receiving licensee. In addition, when the individual begins work for the receiving licensee, the licensee should ensure that individual's hours worked did not and will not exceed the following limits:

1. 16 work hours in any 24-hour period
2. 26 work hours in any 48-hour period
3. 72 work hours in any 7-day period

See the implementation guidance contained in Section 7.3 of NEI 06-11, Revision 1 as endorsed by RG 5.73.

Q. For turnovers which must be conducted on station inside an RCA where dress out is required prior to proceeding to the turnover location, the Reg Guide requires the clock to start at dress out which seems to then require turnovers to occur on the clock. This all but eliminates the ability to work a 6x12 outage work schedule. What was the NRC logic behind removing the dress out from turnover and is there a potential for this to be re-visited?

A. The definition of turnover is very clearly described in 10 CFR 26.205(b)(1). Turnover does not include time necessary to prepare for specific job requirements, such as dressing out. Preparing for a job is work performed for the licensee and is counted against the work hour controls.

As described in RG 5.73. Licensees may exclude shift turnover from the calculation of an individual's work hours. Shift turnover includes only those activities that are necessary to safely transfer information and responsibilities between two or more individuals between shifts. Shift turnover activities may include, but are not limited to, discussions of the status of plant equipment, and the status of ongoing activities, such as extended tests of safety systems and components. Turnover for supervisors may be more extensive than for workers and will therefore may be longer.

Q. What would the NRC consider to be excessive time excluded from working hours for turnover?

A. Anything longer than 30 minutes would be considered excessive.

Q. Please define the term “qualification” as it applies to an assessor. In other words, what in the eyes of the NRC constitutes qualification?

A. Simply stated, there are no additional training requirements for a fatigue assessor other than the required general training. The supervisor performing the fatigue assessment shall be qualified to direct the work to be performed by the individual. If there is no supervisor on site who is qualified to direct the work, the assessment may be performed by a supervisor who is qualified to provide oversight of the work to be performed by the individual.

Q. In the final RG, it is implicit, (but not stated) that on a multi – unit site, with one unit in an outage, the only individuals working under on-line work hour controls would be the licensed operators assigned to the operating unit. All field operators would be under outage work hour controls, regardless of which unit they are working in. I would like to confirm this was the intent, since the utilities are seemed to be aligned on this, and we are planning our implementation to allow this.

A. The questioner is not entirely correct; certainly the operations individuals called out in RG 5.73 are to remain on operating hours. Any others who do not work on outage activities are required to work on operating hours. Only those who work on outage activities, including field operators, are eligible for outage hours.

Q. On a multi unit site, an outage licensed operator is requested to assist the on-line unit, (who has the minimum staffing), with a surveillance test. The outage operator would be augmenting the on-line control room staff and be performing control board manipulations. This appears to be acceptable, and validation is requested.

A. Correct, this is acceptable.

Q. Non-intrusive NDE is not considered covered work...help us understand NRC definition of non-intrusive

A. Predictive maintenance activities that do not result in a change of condition or state of a structure, system, or component (SSC) that a risk-informed evaluation process has shown to be significant to public health and safety may be excluded from covered maintenance activities. Examples of activities that may be excluded if they do not change the state or condition of these SSCs include, but are not limited to, nondestructive examination (NDE), such as thermography, vibration analysis, and data collection and analysis.

Q. I'd like to see some discussion of details surrounding waivers and fatigue assessments. There seems to be some question as to whether the face-to-face assessment required before issuing a waiver is the same thing as the fatigue assessment that is required for cause/post-incident.

A. A fatigue assessment is performed for cause, after a self-declaration, post-event, and as follow-up. These are generally after the fact and the assessment should be designed to address the circumstance for which the assessment is needed. An assessment required to grant a waiver is predictive. The allowance to perform a predictive fatigue assessment acknowledges there are individual differences regarding the onset of fatigue. It is also acknowledged that once onset, the same performance degradations will be seen in all individuals. Therefore a predictive assessment should not simply try to understand if the person is currently fatigued (as a for cause assessment might) but that the person will not become fatigued over the work period in question.

Q. We have a work group from the energy delivery part of the company that performs some work in our switchyard. They have unescorted access to the plant, but they only work here occasionally when needed. The rest of the time, they work out on the distribution system. If we consider them "covered workers" only when they are here, we would look back 9 days before they report to work. Then it might be several weeks before they're back again. If we take them in and out of covered worker status each time they work at the plant, would this be viewed as circumventing the MDO requirements?

Additionally, if we have to work someone overtime that would result in some future violation if they continue to work their same schedule, we would consider removing them from covered worker status and restricting their work activities rather than giving them paid time off. For example, if we had to hold an 8 hour shift worker over for an extra shift, they would only get 8 hours off before their next scheduled shift. If we removed them from covered worker status until after they had two days off and then returned them to covered worker status, would that be considered compliant with the rule?

A. An individual may work on safety-significant and non-safety-significant work in the same day, week or shift cycle. If the switchyard is a safety-significant SSC and the individual is badged to enter any of the licensee protected areas, he/she is considered to be a covered worker. When an individual is in covered status for any part of the shift cycle they are a covered worker for all proceeding time in that shift cycle. Refer to 10 CFR 26.205(b)(3)

After performing covered work it is permissible to be taken off of covered work for the remainder of a cycle and not be subject to work hour controls. If an individual is taken off of covered work and is also taken off of work hour controls then returning the individual to covered work would require a transition to covered work as described in NEI 06-11, Rev 1 as endorsed by RG 5.73.

Travel time

1. Travel time that is required by the licensee is work performed for the licensee. This time should be counted as work hours. Travel is a non-covered duty and the time spent traveling should be included in the calculation of work hours (e.g., for determining the applicability of work hour controls and waiver requirements) as would any other non-covered duty.
 - a. Travel during a regularly scheduled work period is counted as would any other activity performed during that work period.
 - b. Travel that starts during a work period and continues past the normal end of the work period is counted as an extension of the work period during which the travel was initiated.
 - c. Travel that is started prior to a work period and continues into the normal start of the work period is counted as an extension of the work period.
2. Licensees shall ensure that individuals have, at a minimum a 10-hour break between successive work periods. For travel that starts after the normally scheduled work period, the licensee should allow for the time spent traveling plus the required 10 hour break before the start of the next work period.
3. When the inclusion of time spent traveling results in a violation of any work hour control the travel time can be considered to be non-covered duties and a transition back to covered work will be appropriate to manage fatigue. Guidance can be found in NEI 06-11, Revision 1, Section 7.3 "Transitioning Onto A Shift Or Between Covered Groups Or Into A Covered Group."
4. Travel time that occurs outside of a normally scheduled work period may be considered incidental duties performed off-site. Specifically, a nominal 30 or fewer minutes of travel time need not be included in the calculation of work hours.
 - a. When travel time exceeds a nominal 30 minutes, all time spent traveling should be counted as work hours
 - b. Travel before the 10 hour break should be counted as part of the previous work period
 - c. Travel after the 10 hour break should be counted as part of the subsequent work period
5. Travel that occurs between 10-hr breaks and on a day when no other work period begins should be considered to be its own work period when calculating the minimum day off requirement.
6. For travel that includes voluntary stopovers or diversions (e.g., leisure travel) the licensee should include, in the calculation of travel time, only the typical amount of time it would take to travel from the point of origin to the destination as if there were no stopovers or diversions.

Responses to Fitness-for-Duty Fatigue Management Questions
to be posted on the NRC FFD Frequently Asked Questions Web page

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