

NUCLEAR REGULATORY COMMISSION

[Docket No. 50-285; NRC-2013-0243]

Omaha Public Power District

Fort Calhoun Station, Unit 1; Exemption

1.0 BACKGROUND

Omaha Public Power District (OPPD, the licensee) is the holder of Renewed Facility Operating License No. DPR-40, which authorizes operation of Fort Calhoun Station (FCS), Unit 1. The license provides, among other things, that the facility is subject to all rules, regulations, and orders of the U.S. Nuclear Regulatory Commission (NRC) now or hereafter in effect.

The facility consists of one pressurized-water reactor located in Washington County, Nebraska.

2.0 REQUEST/ACTION

Section 26.205(d)(3) of Title 10 of the *Code of Federal Regulations* (10 CFR), requires licensees to ensure that individuals who perform duties identified in 10 CFR 26.4(a)(1) through (a)(5) to comply with the requirements for maximum average work hours in 10 CFR 26.205(d)(7). However, 10 CFR 26.205(d)(4) provides that during the first 60 days of a unit outage, licensees need not meet the requirements of 10 CFR 26.205(d)(7) for individuals specified in 10 CFR 26.4(a)(1) through (a)(4), while those individuals are working on outage activities. The less restrictive requirements of 10 CFR 26.205(d)(4) and (d)(5) are permitted to be applied during the first 60 days of a unit outage following a period of normal plant operation

in which the workload and overtime levels are controlled by 10 CFR 26.205(d)(3). Regulations in 10 CFR 26.205(d)(4) also require licensees to ensure that the individuals specified in 10 CFR 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 10 CFR 26.4(a)(4) have at least 1 day off in any 7-day period. Regulatory Guide (RG) 5.73, "Fatigue Management for Nuclear Power Plant Personnel," endorses Nuclear Energy Institute (NEI) 06-11, "Managing Personnel Fatigue at Nuclear Power Reactor Sites," Revision 1, with exceptions, additions, and deletions. Position 10 of RG 5.73 "C. Regulatory Position" provides an acceptable alternate method to the method stated in the NEI 06-11, Section 8.3, for transitioning individuals who are working an outage at one site onto an outage at another site. On June 11, 2013, OPPD received a previous exemption from the NRC (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13157A135).

By letter dated August 16, 2013 (ADAMS Accession No. ML13231A018), OPPD requested a one-time exemption from specific requirements of 10 CFR 26.205(d)(7). The proposed exemption would allow the use of the less restrictive working hour limitations described in 10 CFR 26.205(d)(4) and (d)(5) to support activities required for plant startup from the current extended outage. This request was made subsequent to the previous exemption period which was approved for a 60-day period, and expired on August 9, 2013. In the previous exemption request, OPPD provided background on what has led to their need for the exemption including flooding and a significant operational event involving a fire in safety-related electrical switchgear which led to transitioning to Inspection Manual Chapter (IMC) 0350, "Oversight of Reactor Facilities in a Shutdown Condition due to Significant Performance and/or Operational Concerns," from being in an extended shutdown with significant performance problems. Because of these events, there has been an increase in workload prior to restart. In obtaining

the previous exemption, OPPD committed to ensure that no individual covered by 10 CFR 26.4(a)(1) through (a)(5) would work more than 50 hours per week averaged over the 2-week period prior to the effective date of the exemption. The licensee is requesting this additional one-time exemption assist in its efforts to complete work activities supporting the restart of FCS from the current extended refueling outage, which began in April 2011.

The licensee stated in its letter dated August 16, 2013, that during the previous exemption period, OPPD completed activities required to restart FCS, however, due to a revision to the current licensing basis to comply with Regulatory Guide 1.76, "Design-Basis Tornado and Tornado Missiles for Nuclear Power Plants," additional work remains to support the restart of the plant. This is due to the required installation of barriers and other activities to address tornado missile vulnerabilities that were identified. By letter dated August 30, 2013 (ADAMS Accession No. ML13246A182), the licensee stated that the installation of the upper guide structure and the reactor vessel head were delayed by the activities related to the resolution of tornado missile vulnerabilities. By letter dated September 23, 2013 (ADAMS Accession No. ML13267A186), in response to the NRC staff's request for additional information dated September 18, 2013 (ADAMS Accession No. ML13261A212), the licensee specified that the schedule delay was directly related to the exigent license amendment dated July 26, 2013 (ADAMS Accession No. ML13203A070), which permitted OPPD to presume that the raw water system was protected from a tornado by crediting the barriers. The licensee stated that this became evident on July 20, 2013. This work performed during the latter weeks of the exemption period ending on August 9, 2013, was not start-up activities as requested and initially scheduled by the licensee; however, the work associated with the exigent amendment request was necessary to begin fuel loading.

In its supplemental information letter dated August 30, 2013, the licensee stated that in addition to the tornado missile vulnerabilities, there was an issue with high-energy line breaks (HELB) that required modifications and testing prior to plant start-up. This issue is described in Licensee Event Report (LER) 2013-011 dated August 12, 2013 (ADAMS Accession No. ML13225A367). Additionally, an issue with high-pressure safety injection (HPSI) as described in LER 2013-010 (ADAMS Accession No. ML13186A011) was identified. The resolution of this issue diverted individuals subject to work hour controls away from start-up activities. In its letter dated September 23, 2013, the licensee stated that work remains to resolve the HELB issue by individuals subject to work hour controls, whereas the work associated with the HPSI issue has been completed. The licensee described the work scheduled for completion during the proposed exemption period. The resolution of the alternate seismic, piping code, and equipment reclassification issues associated with the HELB modifications are not expected to require work by individuals who are under the provisions of work hour controls during the proposed exemption period. The licensee provided a summary of the work schedule for the proposed exemption period. The schedule consists primarily of those activities associated with a normal plant start-up, including system alignments and confirmation walkdowns, fill and vent procedures, modifications, monitoring, just-in-time training for operators, and with closing the breakers signifying the end of the outage on October 26, 2013. Subsequent to OPPD letter dated September 23, 2013, the NRC staff was informed that changes to the schedule have occurred such that the target date of October 26, 2013, for closing the breakers, signifying the end of the outage is no longer valid. Nevertheless, in its letter dated September 23, 2013, OPPD requested that the remaining activities necessary for plant start-up and the activities necessary to resolve the HELB issues be completed within a

45-day exemption period, even though the work is scheduled for 30 days. The licensee has requested approval for a 45-day duration. Previous exemption requests granted by the NRC have not exceeded 30 days, with the exception of what had been granted previously for FCS. Due to the extended shutdown period of over 2 years, the NRC staff concludes that the 45-day exemption period is acceptable because unforeseen issues may arise while completing start-up activities. By letter dated October 25, 2013 (ADAMS Accession No. ML13298A809), the licensee withdrew a portion of its original request in that this exemption would only apply to those individuals described in 10 CFR 26.4 (a)(1) through (a)(4). During the exemption period, the licensee commits to the application of 10 CFR 26.205(d)(4) to the individuals performing those duties specified in 10 CFR 26.4(a)(1) through (a)(4) regarding minimum days off for covered personnel.

As written in the statements of considerations in the *Federal Register* notice for part 26, subpart I, the regulations, meeting the work hour control limits does not definitively mitigate fatigue. The licensee stated that since August 10, 2013, FCS personnel have averaged less than 47 hours per week. This schedule was maintained to minimize the effects of cumulative fatigue management before the exemption period begins. The licensee provided a description of the 30-day period preceding the proposed exemption period that is intended to mitigate cumulative fatigue. Below are tables provided in the licensee's letters dated August 30 and September 23, 2013. The tables describe the hours worked by individuals subject to the work hour controls separated by the functions described in 10 CFR 26.4(a). It should be noted that OPPD does not track the fire brigade work hours that fall under 10 CFR 26.4 (a)(3) separately. Rather, the fire brigade personnel are taken from the operations (10 CFR 26.4 (a)(1)) and security (10 CFR 26.4 (a)(5)) groups. For the purpose of this exemption, the fire brigade personnel subject to this exemption are those within the operations group. Table 2.1 represents

the average work hours from August 10, 2013, to the time of the August 30, 2013, submittal, and Table 2.2 represents the average work hours from August 11, 2013, through September 21, 2013.

Department	Work Hours
Chemistry	47
Radiation Protection	42
Maintenance	42
Operations	43
Security	44

Table 2.1

Department	Work Hours
Chemistry	40
Radiation Protection	40
Maintenance	46
Operations	40
Security	44

Table 2.2

These hours represent the time worked by individuals immediately after the previous exemption period ended until the NRC approval of the proposed exemption request. The licensee stated that this represents an approximate 6-week shift cycle.

The NRC staff considers the work hours averaged by individuals acceptable to mitigate cumulative fatigue in the instance of this exemption request. Due to the scheduling of the two outage relaxation exemption periods requested, the NRC staff considers it important to mitigate cumulative fatigue before the proposed exemption period of 45 days. Because the exemption is tied to activities that directly relate to heating the reactor coolant T_{cold} greater than 210°F (i.e., exiting Mode 4 or 5), the exemption is being issued coincident with the date that OPPD intends to heat the reactor coolant T_{cold} greater than 210°F (i.e., exit Mode 4 or 5). Further, the exemption is granted to those individuals who perform duties described in 10 CFR 26.4(a)(1) through (a)(4) that, as of the date of this exemption, have not exceeded a 48 hour average work week for the 6 week period prior to the date of this exemption. By limiting the exemption to

individuals that meet these criteria the staff considers that cumulative fatigue is acceptably mitigated in the instance of this exemption request. By letter dated October 11, 2013 (ADAMS Accession No. ML13284A104), in response to the NRC staff's request for additional information dated October 9, 2013 (ADAMS Accession No. ML13282A536), the licensee stated that a 50-hour average work week for those individuals described in 10 CFR 26.4 (a)(5) would be more appropriate due to an upcoming force-on-force (FOF) exercise, modifications necessary to meet the requirements of 10 CFR 73.55, in addition to activities related to startup. Subsequently, by letter dated October 25, 2013, the licensee withdrew a portion of its original request in that this exemption would only apply to those individuals described in 10 CFR 26.4 (a)(1) through (a)(4) and not 10 CFR 26.4 (a)(5) for security personnel. The NRC staff considers that because personnel associated with the fire brigade are taken from different groups at OPPD, limiting the fire brigade to a 48 hour average work week for the 6 week period prior to the date of this exemption will ensure the cumulative fatigue is acceptably mitigated for those individuals that perform duties in the operations group.

3.0 DISCUSSION

Pursuant to 10 CFR 26.9, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR part 26 when the exemptions are authorized by law, and will not endanger life or property or the common defense and security, and are otherwise in the public interest.

FCS commenced a refueling outage on April 9, 2011, and declared an Unusual Event on June 6, 2011. The first 60 days of the outage during which the less restrictive work hour limitations of 10 CFR 26.205(d)(4) and (d)(5) were in effect, ended in June 2011. On October 10, 2012, OPPD requested an exemption from specific requirements of

10 CFR 26.205(d)(7) and instead allow the use of the less restrictive working hour limitations described in 10 CFR 26.205(d)(4) and (d)(5) to support activities required for plant start-up. The NRC granted the exemption for a period, which lasted 60 days and ended on August 9, 2013, and individuals began working a normal, on-line schedule in compliance with 10 CFR 26.205(d)(7). Work group timekeepers for on-line and plant outage periods are to maintain schedules and time reports. Duration of scheduled work and break periods, start times, rotating schedules, training, and vacation are considered when establishing work schedules.

Notwithstanding the exemption for this specific requirement, the licensee will continue to be in compliance with all other requirements as described in 10 CFR part 26.

Authorized by Law

This exemption would allow the licensee to use the less restrictive working hour limitations provided in 10 CFR 26.205(d)(4) for completion of the outage activities, for a period of 45 days, during the current extended outage. The approval of this exemption, as noted above, would allow the licensee the use of the less restrictive working hour limitations described in 10 CFR 26.205(d)(4) for an additional period not to exceed 45 days or until the reactor unit is connected to the electrical grid whichever occurs first, to support activities required to be finished before plant startup can be completed. As stated above, 10 CFR 26.9 allows the NRC to grant exemptions from the requirements of 10 CFR part 26. The NRC staff has determined that granting of the licensee's proposed exemption would not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Therefore, law authorizes the exemption.

Will not Endanger Life or Property

The underlying purpose of 10 CFR 26.205(d)(4) is to provide licensees flexibility in scheduling required days off when accommodating the more intense work schedules associated

with a unit outage, while assuring that cumulative fatigue does not compromise the abilities of individuals to safely and competently perform their duties.

Based on the information provided by OPPD in its August 30, and September 23, 2013, letters, FCS personnel have averaged less than 48 hours per week. Further, the exemption is granted to those individuals who perform duties described in 10 CFR 26.4(a)(1) through (a)(4) that, as of the date of this exemption, have not exceeded a 48-hour average work week for the 6-week period prior to the date of this exemption. This provides assurance that covered workers are not already fatigued from working an outage schedule. This exemption would allow the licensee to implement the less restrictive work hour requirements of 10 CFR 26.205(d)(4) to allow flexibility in scheduling required days off while accommodating the more intensive work schedules that accompany completion of the FCS extended outage. Therefore, cumulative fatigue will not compromise the abilities of affected individuals to safely and competently perform their duties.

No new accident precursors are created by invoking the less restrictive work hour limitations on a date commensurate with the start of those activities supporting the completion of the extended outage at FCS, provided that the licensee has effectively managed fatigue for the affected individuals prior to this date. Thus, no new accident precursors are created by invoking the less restrictive work hour limitations on a date commensurate with the start of activities supporting the restart of FCS. The licensee will effectively manage fatigue for the covered individuals prior to this date. Thus, the probability of postulated accidents is not increased. Also, based on the above, the consequences of postulated accidents are not increased. Therefore, granting this exemption will not endanger life or property.

Consistent with Common Defense and Security

The proposed exemption would allow for the use of the less restrictive work-hour

requirements of 10 CFR 26.205(d)(4) for those individuals who perform duties described in 10 CFR 26.4(a)(1) through (a)(4) that, as of the date of this exemption, have not exceeded a 48-hour average work week for the 6-week period prior to the date of this exemption in lieu of 10 CFR 26.205(d)(7). This exemption would affect operations (including fire, radiation protection, chemistry, fire brigade, and maintenance personnel supporting the completion of the outage activities for FCS, which has been in an extended outage since April 9, 2011.

The licensee will maintain the qualified personnel to which this exemption applies in the operations, radiation protection, chemistry, fire brigade, and maintenance departments on a schedule that complies with 10 CFR 26.205(d)(4) requirements during the proposed exemption period. The exemption would continue to serve the underlying purpose of 10 CFR part 26, subpart I, in that assurance would be provided such that cumulative fatigue of individuals to safely and competently perform their duties will not be compromised. Therefore, the common defense and security is not impacted by this exemption.

Consistent with the Public Interest

The proposed exemption would allow the licensee to implement the less restrictive work hour requirements of 10 CFR 26.205(d)(4) for those individuals who perform duties described in 10 CFR 26.4(a)(1) through (a)(4) that, as of the date of this exemption, have not exceeded a 48-hour average work week for the 6-week period prior to the date of this exemption in lieu of 10 CFR 26.205(d)(7) to allow flexibility in scheduling required days off while accommodating the more intensive work schedules that accompany a unit outage. By letters dated August 30 and September 23, 2013, the licensee explained the emergent events supporting the less restrictive limitations requiring flexibility in scheduling. During the completion of the extended outage, the workload for the affected personnel will undergo a temporary but significant increase due to the various activities from being in an extended shutdown with significant performance problems, in

addition to tornado missile vulnerabilities, and issues concerning the HELB accident scenario. During the extended shutdown, extensive work has been initiated to address deficiencies noted in containment building electrical penetrations, containment structural supports, and the impact of flooding hazards related to systems, structures, and components. These activities are in addition to the normal FCS startup activities involving operation and surveillance testing of primary systems and components. Ensuring a sufficient number of qualified personnel are available to support these activities is in the interest of overall public health and safety. Therefore, this exemption is consistent with the public interest.

4.0 ENVIRONMENTAL CONSIDERATION

The exemption would authorize a one-time exemption from the requirements of 10 CFR 26.205(d)(7) to allow the use of the less restrictive hour limitations described in 10 CFR 26.205(d)(4). Using the standard set forth in 10 CFR 50.92 for amendments to operating licenses, the NRC staff determined that the subject exemption sought involves employment suitability requirements. The NRC has determined that this exemption involves no significant hazards considerations:

(1) The proposed exemption is administrative in nature and is limited to changing the timeframe when less restrictive hours can be worked. This does not result in any changes to the design basis requirements for the structures, systems, and components (SSCs) at FCS that function to limit the release of non-radiological effluents during and following postulated accidents. Therefore, issuance of this exemption does not increase the probability or consequences of an accident previously evaluated.

(2) The proposed exemption is administrative in nature and is limited to changing the timeframe when less restrictive hours can be worked. The proposed exemption does not make

any changes to the facility or operating procedures and would not create any new accident initiators. The proposed exemption does not alter the design, function, or operation of any plant equipment. Therefore, this exemption does not create the possibility of a new or different kind of accident from any accident previously evaluated.

(3) The proposed exemption is administrative in nature and is limited to changing the timeframe when less restrictive hours can be worked. The proposed exemption does not alter the design, function, or operation of any plant equipment. Therefore, this exemption does not involve a significant reduction in the margin of safety.

Based on the above, the NRC concludes that the proposed exemption does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92, and accordingly, a finding of “no significant hazards consideration” is justified.

The NRC staff has also determined that the exemption involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite; that there is no significant increase in individual or cumulative occupational radiation exposure; and there is no significant increase in the potential for or consequences from a radiological accident. Furthermore, the requirement from which the licensee will be exempted involves scheduling requirements. Accordingly, the exemption meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(25). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment is required to be prepared in connection with granting the exemption.

5.0 CONCLUSION

Accordingly, the Commission has determined that pursuant to 10 CFR 26.9, "Specific exemptions," an exemption from 10 CFR 26.205(d)(7) is authorized by law and will not endanger life or property or the common defense and security, and is otherwise in the public interest.

Therefore, the Commission hereby grants OPPD a one-time, 45-day exemption from 10 CFR 26.205(d)(7) to allow the use of the work hour limitations described in 10 CFR 26.205(d)(4) for those individuals who perform duties described in 10 CFR 26.4(a)(1) through (a)(4) that, as of the date of this exemption, have not exceeded a 48-hour average work week for the 6-week period prior to the date of this exemption.

This exemption is effective upon issuance. The licensee may implement the work hour provisions of 10 CFR 26.205(d)(4) for those individuals subject to the work hour controls separated by the functions described in 10 CFR 26.4(a) that, as of the date of this exemption, have not exceeded a 48-hour average work week for the 6 week period prior to the date of this exemption for 45 days or until the completion of the current extended outage, whichever is shorter.

Dated at Rockville, Maryland, this 28th day of October 2013.

For the Nuclear Regulatory Commission.

/RA/

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