



August 30, 2013  
LIC-13-0125

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Mail Station P1-137  
Washington, D.C. 20555

- References:
1. Docket No. 50-285
  2. Letter from OPPD (L. P. Cortopassi) to NRC (Document Control Desk), "Request for Exemption from Requirements of 10 CFR 26.205(d)(7)," dated August 16, 2013 (ML13231A018) (LIC-13-0121)
  3. Letter from NRC (J. M. Sebrosky) to OPPD (L. P. Cortopassi), "Fort Calhoun Station, Unit No. 1 – Supplemental Information Needed for Acceptance of Requested Licensing Action RE: Request for Exemption from Work Hour Requirements of 10 CFR 26.205(d)(7) (TAC No. MF2571)," dated August 26, 2013 (ML13233A248)

**SUBJECT: Reply to NRC Request for Supplemental Information Needed for Acceptance of Requested Licensing Action RE: Request for Exemption from Work Hour Requirements of 10 CFR 26.205(d)(7) (TAC No. MF2571)**

On August 16, 2013, the Omaha Public Power District (OPPDP) submitted a request (Reference 2) for an exemption from requirements of paragraph 26.205(d)(7) of Title 10 of the *Code of Federal Regulations* (10 CFR) for Fort Calhoun Station, Unit No.1. Reference 2 requested an exemption from specific requirements of 10 CFR 26.205(d)(7), to allow the use of the less restrictive work 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, for a period not to exceed 45 days.

As discussed in Reference 3, the U.S. Nuclear Regulatory Commission (NRC) staff has determined that additional information is necessary before the staff can begin a detailed review of the Reference 2 exemption request. Attached is OPPD's response to the four (4) questions contained in the enclosure to Reference 3.

This letter contains no new regulatory commitments.

If you should have any additional questions or require additional information, please contact Mr. Bill Hansher at (402) 533-6894.

Sincerely,

A handwritten signature in black ink, appearing to read "LPC", is written over a light blue horizontal line.

Louis P. Cortopassi  
Site Vice President and CNO

Attachment: Supplemental Information Regarding OPPD Work Hour Exemption Request

SUPPLEMENTAL INFORMATION NEEDED

WORK HOUR EXEMPTION REQUEST

OMAHA PUBLIC POWER DISTRICT

FORT CALHOUN STATION, UNIT NO.1

DOCKET NOS. 50-285

During a licensing status call on August 6, 2013, representatives of Omaha Public Power District (OPPD) informed the NRC staff that OPPD planned to submit an exemption request for Part 26, Subpart I, to allow the use of less restrictive work hour limitations for a period not to exceed 45 days. OPPD indicated that it would request NRC approval of the exemption request within 30 days of its submittal. The NRC staff reviewed its approval of a prior exemption approved on June 11, 2013, (ADAMS Accession No. ML13157A135) and emphasized the need for a high quality application that contained all the information needed to support the review. Specifically, the NRC staff stated that the information listed below was needed for consideration of the proposed exemption request. Subsequent to the August 6, 2013, status call, OPPD submitted the August 16, 2013, exemption request, but it is not evident that the information listed below is part of the August 16, 2013, submittal. Therefore, the NRC staff requests that OPPD supplement the August 16, 2013, application to address the information listed below by August 30, 2013.

**NRC Question**

1. An explanation of why 45 days would be needed for startup activities.

**OPPD Response**

During the 60-day period from June 11, 2013 through August 9, 2013 when the exemption from the requirements of 10 CFR Part 26.205(d)(7) was in effect, additional, unanticipated challenges to plant startup occurred. Therefore, OPPD's workforce had to focus its efforts on this emergent work in lieu of performing startup activities. The emergent work is nearly complete and OPPD is requesting that the exemption be effective for 45 days. This is sufficient to complete the necessary work and return the unit to power operations. A brief description of some of the unanticipated challenges that impacted startup activities follows.

Since the April 22, 2013, meeting with the NRC regarding potential license amendment requests (LARs), additional tornado missile vulnerabilities were discovered, which were not identified until after the first exemption was in effect. Resolution of this issue delayed loading fuel into the reactor until an exigent amendment (Reference 1) was received on July 26, 2013. A significant amount of work has been completed to install the necessary physical modifications protecting equipment necessary for safe shutdown. However, workers subject to the work hour controls of 10 CFR 26.205(d)(7) were tasked with performing much of this work in lieu of being able to focus on outage completion and startup activities.

As reported in licensee event report (LER) 2013-011, Revision 0 (Reference 2), on June 13, 2013, an unevaluated high energy line break (HELB) in the steam supply to the auxiliary feedwater turbine inside Room 19 of the Auxiliary Building was identified. Subsequently, on June 14, 2013, a deficiency was identified with verifying that the Electrical Equipment Qualification (EEQ) Program met all the criteria for establishing pipe rupture locations in Room 13 of the Auxiliary Building. Resolution of these issues will require analyses to be performed, modifications completed, and supporting documentation (including program documents) updated. Workers subject to 10 CFR 26.205(d) (7) work hour controls must perform much of the work required for completion of the modifications.

As reported in LER 2013-010, Revision 0 (Reference 3), on May 3, 2013, station personnel identified that the high pressure safety injection (HPSI) pump flows to the reactor coolant system (RCS) were not balanced in accordance with the Fort Calhoun Station (FCS) Updated Safety Analysis Report. At the time, FCS was shutdown with fuel removed from the vessel. Since that time, HPSI flow to the RCS has been balanced. However, the resolution of this issue required the diversion of covered workers from startup activities.

In summary, this 45-day exemption is requested to resolve the issues noted above and to allow the complex and interrelated activities associated with restarting a nuclear power plant to be completed. Many outage completion and startup activities could not be performed during the first exemption because covered workers were either supporting resolution of emergent issues or the emergent issues themselves prevented fuel reload and the subsequent activities that follow that evolution.

### **NRC Question**

2. The basis of how the use of 30 days being used as a recovery period in the exemption request would ensure that individuals are not fatigued prior to the proposed exemption period.

### **OPPD Response**

Operations management has reviewed the work schedule since coming off the work hours allowed by the first exemption through August 9, 2013. Since then, operating crews have averaged 43 hours per week having returned to their six (6) respective crews which follow a 12-hour rotating shift schedule. This schedule is conducive to ensuring operators recover and rest. As an overview, operators on this schedule work 3 or 4 days in a row followed by several days off. The shortest rest period is of 72.5-hour duration that falls between crew training time (10-hour days) and a series of 3 days on shift. The other days off are 4 to 6 day rest periods between shifts worked. Several of the operators have taken advantage of this schedule and management has supported "relief" week vacations. In these instances, operators can take 32 hours of vacation time resulting in 14 consecutive days away from work.

During the operator's time on-shift, they have been performing their duties of equipment monitoring, checking line-ups, and supporting maintenance activities. Management regularly interacts with the workforce through observations and conversation. These interactions have found no evidence of fatigue. Nuclear safety culture surveys continue to be performed. These surveys are used to detect negative trends in worker's attitude that could result from a fatigued

workforce. Survey results consistently show evidence of positive morale in the Operations Department, which is consistent with management's first hand observations.

Maintenance management has reviewed the work schedule since coming off the work hours allowed by the first exemption through August 9, 2013. Since then, the maintenance organization has averaged 42 hours per week having returned to the on-line work hour schedule. This schedule is conducive to ensuring maintenance personnel recover and rest. As an overview, this schedule works the craft 9-hour days, 5 days per week with the potential for a 6th work day on Saturday or Sunday depending on the critical path needs of the schedule. On such a schedule, the longest period of time off is 62 hours and the shortest period is 38 hours in a 7-day window. Individuals are also requesting and being granted vacation time during this period.

Management, particularly first-line supervisors, regularly interacts with maintenance technicians through observations and conversation. These interactions have found no evidence of fatigue. Technicians are encouraged to inform management of personal needs and management has consistently supported these needs. Nuclear safety culture surveys continue to be performed. These surveys are used to detect negative trends in worker's attitude that could result from a fatigued workforce. Survey results consistently show evidence of positive morale in the Maintenance Department, which supports management's first hand observations.

Management of the Chemistry, Radiation Protection, and Security Departments also exhibit a concern for minimizing worker fatigue as shown in the table below. Since the first exemption expired on August 9, 2013, the Chemistry, Radiation Protection, and Security Departments have averaged a substantial number of hours less than permitted by 10 CFR 26.205(d)(7).

### **NRC Question**

3. As indicated in the regulations, meeting the work hour control limits does not necessary mitigate fatigue; therefore, please provide scheduling plans for each group for the period after the previous exemption to the anticipated start of this exemption request.

### **OPPD Response**

Since immediately after the first exemption ended (i.e., since August 10, 2013), the work groups subject to the work hour controls specified in 10 CFR 26.205 (i.e., those that fall into 10 CFR 26.4(a) categories) have averaged the following number of hours per week:

<b>Department</b>	<b>Work Hours</b>
Chemistry	47
Radiation Protection	42
Maintenance	42
Operations	43
Security	44

These averages are well under those permitted by 10 CFR 26.205(d)(7), which permits individuals to work a weekly average of 54 hours. This is conducive to minimizing fatigue in the interim until the exemption is granted particularly as the period between when the first

exemption expired on August 9, 2013, until this exemption is granted is expected to approximate a 6-week cycle.

#### **NRC Question**

4. A discussion of why the outage hours in first exemption request continued to be utilized even after it was known that startup would not occur during the exemption period and what actions would be taken if during a second exemption period a similar situation occurred.

#### **OPPD Response**

As stated in the response to Question 1, additional, unanticipated challenges to plant startup occurred during this timeframe. OPPD believed that it was in the public interest to utilize its resources to resolve these issues in as expeditious a manner as possible. The first exemption request allowed covered workers to work the hours necessary to install the physical modifications needed to protect tornado missile vulnerabilities in an expeditious manner. Altering covered workers schedules so that they worked less than the hours permitted by 10 CFR 26.205(d)(4) and (d)(5) would not have been in the interest of public health and safety because it would have delayed completing the protection of this equipment. Furthermore, resolution of the tornado missile vulnerability issue delayed loading fuel into the reactor until an exigent amendment (Reference 3) was received on July 26, 2013. The upper guide structure and reactor vessel head have since been installed but as stated above, resolution of the tornado missile vulnerability issue delayed these activities.

Similarly, resolution of the HELB/EEQ issue described in LER 2013-011, Revision 0, will require covered workers to install modifications and perform testing prior to startup. It is in the public interest for the necessary modifications to be installed and tested in an expeditious manner as permitted if covered workers are allowed to work the hours permitted by 10 CFR 26.205(d)(4) and (d)(5).

If a second exemption period is granted, OPPD is confident that a similar situation will not recur. Forty-five (45) days is sufficient time to resolve the issues noted above and complete the activities associated with restarting the plant. Regarding the April 22, 2013, NRC-OPPD meeting, LARs were submitted for the tornado missile vulnerability (Reference 4) and intake structure (Reference 5) issues, and operability evaluations were conducted on the remaining issues (i.e., alternate seismic criteria, piping code, equipment reclassification). The amount of covered work remaining for the intake structure issue is limited in scope. The resolution of the alternate seismic, piping code, and equipment reclassification issues are not expected to require covered work during the remainder of this outage.

#### **References**

1. Letter from NRC (J. M. Sebrosky) to OPPD (L. P. Cortopassi), "Fort Calhoun Station, Unit No.1-Issuance of Exigent Amendment RE: Revise Current Licensing Basis for Addressing Design-Basis Tornado/Tornado Missile Impact (TAC No. MF2469)," dated July 26, 2013 (ML13203A070) (NRC-13-0095)
2. Letter from OPPD (L. P. Cortopassi) to NRC (Document Control Desk), "Licensee Event Report 2013-011, Revision 0, for the Fort Calhoun Station," dated August 12, 2013

- (ML13225A367) (LIC-13-0114)
3. Letter from OPPD (L. P. Cortopassi) to NRC (Document Control Desk), "Licensee Event Report 2013-010, Revision 0, for the Fort Calhoun Station," dated July 2, 2013 (ML13186A011) (LIC-13-0093)
  4. Letter from OPPD (L. P. Cortopassi) to NRC (Document Control Desk), "Exigent License Amendment Request 13-02 Revise Current Licensing Basis to Adopt a Revised Design Basis / Methodology for Addressing Design-Basis Tornado / Tornado Missile Impact," dated July 21, 2013 (ML13203A136) (LIC-13-0061)
  5. Letter from OPPD (L. P. Cortopassi) to NRC (Document Control Desk), "License Amendment Request (LAR) 13-03, Request to Revise Updated Safety Analysis Report to Allow Implementation of Modification EC 55394, Raw Water Pump Operation and Safety Classification of Components during a Flood," dated August 16, 2013 (LIC-13-0105)