



**Nebraska Public Power District**

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NLS2009057  
August 12, 2009

U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555-0001

**Subject:** Response to Nuclear Regulatory Commission Request for Additional Information  
Re: Battery Resistance Surveillance Requirements (TAC No. ME0848)  
Cooper Nuclear Station, Docket No. 50-298, DPR-46

- References:**
1. Letter from Carl F. Lyon, U. S. Nuclear Regulatory Commission, to Stewart B. Minahan, Nebraska Public Power District, dated July 10, 2009, "Cooper Nuclear Station - Request for Additional Information Re: Battery Resistance Surveillance Requirements (TAC No. ME0848)"
  2. Letter from Stewart B. Minahan, Nebraska Public Power District, to the U.S. Nuclear Regulatory Commission, dated March 11, 2009, "License Amendment Request to Revise Nonconservative Battery Resistance Technical Specification Surveillance Requirements"

Dear Sir or Madam:

The purpose of this letter is for Nebraska Public Power District to submit a response to a Request for Additional Information (RAI) from the Nuclear Regulatory Commission (NRC) (Reference 1). Reference 1 requested information in support of NRC's review of a license amendment request for the Cooper Nuclear Station facility operating license and technical specifications to revise nonconservative battery resistance surveillance requirements (Reference 2).

Responses to the specific RAI questions are provided in Attachment 1. Attachment 2 shows additional changes to the Technical Specifications (TS), based on the RAI response, in marked up format. Attachment 3 provides the additional TS change in final typed form. Enclosures 1, 2, 3, and 4 are the supporting calculations for total resistance limits for both divisions of the station batteries. Lastly, a conforming change is also being made to the TS Bases. This additional change is not attached.

AUDI  
NRR

The information submitted by this response does not change the conclusions or the basis of the no significant hazards consideration evaluation provided with Reference 2. Additionally, no regulatory commitments are made in this submittal.

If you have any questions concerning this matter, please contact David Van Der Kamp, Licensing Manager, at (402) 825-2904.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 8/12/09  
(date)

Sincerely,



Stewart B. Minahan  
Vice President – Nuclear and  
Chief Nuclear Officer

/bk

Attachments  
Enclosures

cc: Regional Administrator w/ attachments and enclosures  
USNRC - Region IV

Cooper Project Manager w/ attachments and enclosures  
USNRC - NRR Project Directorate IV-1

Senior Resident Inspector w/ attachments and enclosures  
USNRC - CNS

Nebraska Health and Human Services w/ attachments and enclosures  
Department of Regulation and Licensure

NPG Distribution w/ attachments and w/o enclosures

CNS Records w/ attachments and enclosures

ATTACHMENT 3 LIST OF REGULATORY COMMITMENTS<sup>4</sup>Correspondence Number: NLS2009057

The following table identifies those actions committed to by Nebraska Public Power District (NPPD) in this document. Any other actions discussed in the submittal represent intended or planned actions by NPPD. They are described for information only and are not regulatory commitments. Please notify the Licensing Manager at Cooper Nuclear Station of any questions regarding this document or any associated regulatory commitments.

COMMITMENT	COMMITMENT NUMBER	COMMITTED DATE OR OUTAGE
None		

## Attachment 1

### **Response to Nuclear Regulatory Commission Request for Additional Information Battery Resistance Surveillance Requirements (TAC No. ME0848)**

Cooper Nuclear Station, Docket No. 50-298, DPR-46

The Nuclear Regulatory Commission (NRC) Request for Additional Information (RAI) is shown in italics. The Nebraska Public Power District's (NPPD) response to each RAI is shown in block font.

#### NRC Question #1

*In the license amendment request dated March 11, 2009, the licensee proposed revising Technical Specification (TS) Surveillance Requirements (SRs) 3.8.4.2 and SR 3.8.4.5 by adding a parameter of total battery resistance. Please provide the full calculations for the total resistance limits that are referenced in the TS Bases for TS SRs 3.8.4.2 and 3.8.4.5, including assumptions and supporting documentation, to show that the batteries will perform their intended design functions when operating within these limits.*

#### NPPD Response

Copies of the following calculations, without appendices, are included as enclosures to this response. They are not considered proprietary.

- Enclosure 1 – NEDC 87-131C, Revision 9, 125 VDC Division I Load and Voltage Study
- Enclosure 2 – NEDC 87-131D, Revision 8, 125 VDC Division II Load and Voltage Study
- Enclosure 3 – NEDC 87-131A, Revision 9, 250 VDC Division I Load and Voltage Study
- Enclosure 4 – NEDC 87-131B, Revision 8, 250 VDC Division II Load and Voltage Study

#### NRC Question #2

*The words "not applicable" are used in proposed TS Table 3.8.4-1. Please explain the use of this wording, and describe how battery limits will be monitored during the performance of revised SRs 3.8.4.2 and 3.8.4.5 (e.g., describe any procedure changes between what is currently performed and what will be performed after implementation of the proposed TS changes).*

NPPD Response

The term “not applicable” meant the limit was not applicable to only one system or one division, but upon further consideration it could be confusing. Therefore, we have replaced the words “not applicable” with “Both 125 volt and 250 volt” under the System column heading and “Both 1 and 2” under the Division column heading in proposed TS Table 3.8.4-1. Attachment 2 provides revised Table 3.8.4-1 in marked up format, and Attachment 3 provides the revised table in final-typed format.

Battery resistance limits of the station batteries are currently monitored through performance of Surveillance Procedure 6.EE.609, 125V/250V Station Battery Intercell Connection Testing. NPPD added total resistance of the batteries as a calculated parameter to this same surveillance procedure as an interim action per Administrative Letter 98-10 for the nonconservative TS. The procedure sums the inter-cell connectors, the inter-tier cables and connectors, the inter-rack cables and connectors, and the terminal connections to determine total resistance. It then compares that with an interim acceptable value. The interim limits in the procedure for total battery resistance are more conservative than the supporting load and voltage studies provided in the enclosures.

Upon issuance of the license amendment, the method of monitoring battery resistance, including total resistance, will not change; however, Surveillance Procedure 6.EE.609 will require revision to make the limits consistent with revised TS SRs 3.8.4.2 and 3.8.4.5.

**Attachment 2**

**Proposed Technical Specification Revisions  
(Markup)**

**Cooper Nuclear Station, Docket No. 50-298, DPR-46**

Revised Technical Specification Page

3.8-19

Table 3.8.4-1 (page 1 of 1)  
Battery Connection Resistance Limits

PARAMETER	LIMIT (MICRO-OHMS)	SYSTEM	DIVISION
Inter-cell connections	≤ 150	not applicable Both 125 volt and 250 volt	not applicable Both 1 and 2
Inter-rack connections	≤ 280	not applicable Both 125 volt and 250 volt	not applicable Both 1 and 2
Inter-tier connections	≤ 150	not applicable Both 125 volt and 250 volt	not applicable Both 1 and 2
Terminal connections	≤ 150	not applicable Both 125 volt and 250 volt	not applicable Both 1 and 2
Total battery resistance	≤ 3300	125 volt	Both 1 and 2
	<del>≤ 3300</del>	<del>125 volt</del>	2
	≤ 6500	250 volt	Both 1 and 2
	<del>≤ 6500</del>	<del>250 volt</del>	2

**Attachment 3**

**Proposed Technical Specification Revisions  
(Final Typed)**

**Cooper Nuclear Station, Docket No. 50-298, DPR-46**

Revised Technical Specification Page

3.8-19

Table 3.8.4-1 (page 1 of 1)  
Battery Connection Resistance Limits

PARAMETER	LIMIT (MICRO-OHMS)	SYSTEM	DIVISION
Inter-cell connections	≤ 150	Both 125 volt and 250 volt	Both 1 and 2
Inter-rack connections	≤ 280	Both 125 volt and 250 volt	Both 1 and 2
Inter-tier connections	≤ 150	Both 125 volt and 250 volt	Both 1 and 2
Terminal connections	≤ 150	Both 125 volt and 250 volt	Both 1 and 2
Total battery resistance	≤ 3300	125 volt	Both 1 and 2
	≤ 6500	250 volt	Both 1 and 2