Nebraska Public Power District
Nebraska's Energy Leader

NLS2000018
March 17, 2000

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

Gentlemen:

Subject: Proposed Change to the Cooper Nuclear Station Technical Specifications Incorporation of Generic Letter 99-02, Laboratory Testing of Nuclear-Grade Activated Charcoal
Cooper Nuclear Station, NRC Docket 50-298, DPR-46

References:
1. NRC Generic Letter 99-02, Laboratory Testing of Nuclear-Grade Activated Charcoal, dated June 3, 1999.
2. Nebraska Public Power District Letter (NLS990117), from John H. Swailes to U.S. Nuclear Regulatory Commission dated December 2, 1999, Response to Generic Letter 99-02, Laboratory Testing of Nuclear-Grade Charcoal.
3. Nebraska Public Power District Letter (NLS990119) from John H. Swailes to U.S. Nuclear Regulatory Commission dated December 8, 1999, Supplemental Response to Generic Letter 99-02, Laboratory Testing of Nuclear-Grade Activated Charcoal.
4. Nebraska Public Power District Letter (NLS990122) from John H. Swailes to U.S. Nuclear Regulatory Commission, dated December 22, 1999, Design Basis Accident Radiological Assessment Calculational Methodology Revision.
5. Nebraska Public Power District Letter (NLS2000003) from John H. Swailes to U.S. Nuclear Regulatory Commission, dated January 31, 2000, Revision of Commitment Date Concerning Submittal of Proposed Technical Specification Change in Response to NRC Generic Letter 99-02.

In accordance with the provisions of 10 CFR 50.4 and 10 CFR 50.90, the Nebraska Public Power District (District) submits this request for amendment to Operating License DPR-46 to revise the Cooper Nuclear Station (CNS) Technical Specifications to incorporate the recommendations of Generic Letter 99-02 (GL 99-02), (Reference 1).

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GL 99-02 identified concerns with the American Society for Testing and Materials (ASTM) D3803-1979, "Standard Test Methods for Radioiodine Testing of Nuclear-Grade Gas-Phase Adsorbents," test parameter tolerances, instrument calibration requirements, and test protocol. GL 99-02 stated that the NRC considers ASTM D3803-1989, "Standard Test Method for Nuclear-Grade Activated Carbon," to be the most accurate and realistic protocol for testing new and used charcoal in ESF ventilation systems. The proposed GL 99-02 CNS Technical Specification change replaces the requirement to laboratory test Engineered Safety Feature (ESF) ventilation system charcoal in accordance with ASTM D3803-1979 with that of ASTM D3803-1989, revises the methyl iodide removal rate acceptance criteria from 99% to 97.5%, and revises the ESF ventilation filter charcoal test flow rates based on CNS specific charcoal bed residence time design calculations and the guidance provided in GL 99-02.

Discussions were held between the District and the NRC CNS Project Manager during November 1999 regarding the proposed Technical Specification change associated with the District's response to GL 99-02. During these discussions it was noted that the proposed GL 99-02 Technical Specification change would require a revision to the Cooper Nuclear Station (CNS) Design Basis Accident (DBA) radiological dose consequence analysis such that the charcoal filter efficiency safety factors described in Generic Letter 99-02 could be credited.

Based on the November 1999 discussions the District submitted the response to GL 99-02 under References 2 and 3 without the accompanying GL 99-02 proposed Technical Specification change. Proposed revisions to the CNS DBA radiological dose calculational methodology, which included revised charcoal filter efficiencies utilizing the safety factor guidance provided in GL 99-02, were subsequently submitted to the NRC under Reference 4. Reference 5 provided additional details regarding the submittal schedule for the proposed GL 99-02 Technical Specification change as discussed with the NRC Project Manager during January 2000.

The District requested in its response to GL 99-02, that the NRC exercise enforcement discretion consistent with Section VII.B.6 of the Enforcement Policy, as described in Generic Letter 99-02, to allow the District time to conduct laboratory testing of ESF ventilation system charcoal samples per ASTM D3803-1989 vice the current Technical Specification requirement to test per ASTM D3803-1979. While the District recognizes that the enforcement discretion discussed in the Generic Letter was contingent upon submitting a Technical Specification amendment request within 180 days of the issuance of Generic Letter 99-02, we conclude that the spirit of that condition was satisfied with the submittal of Reference 4. Although arguably untimely, the GL 99-02 Technical Specification proposed change is being submitted in a logical manner with respect to Reference 4, since Reference 4 provided the basis for the methyl iodide removal rate acceptance criteria contained in the proposed change. In light of the basis for the delayed submittal, the District respectfully requests that the enforcement discretion discussed in Generic Letter 99-02 continue to be applied to CNS. To minimize the period of enforcement discretion the District requests issuance of the proposed license amendment by August 31, 2000.

Attachment 1 contains the description of the proposed Technical Specification change, the basis for the change, the attendant 10 CFR 50.92 evaluation and an environmental impact evaluation. Attachment 2 contains a copy of the current CNS Technical Specification page affected by this change and a copy of the proposed CNS Technical Specification change in red-line/strike-out

form. Attachment 3 contains the affected CNS Technical Specification page in final typewritten form. The proposed change has been reviewed by the necessary Safety Review Committees and incorporates all amendments to the CNS Facility Operating License through Amendment 180 issued March 3, 2000. The District has concluded that the proposed change does not involve a significant hazard.

By copy of this letter and attachments the appropriate State of Nebraska official is being notified in accordance with 10 CFR 50.91(b)(1). Copies to the Region IV Office and the CNS Resident Inspector are also being sent in accordance with 10 CFR 50.4(b)(2).

Should you have any questions concerning this matter, please contact Sharon Mahler at (402) 825-5236.

Sincerely,

John H. Swailes
Vice President of Nuclear Energy

/rlb

Attachments

cc: Regional Administrator w/attachments
USNRC - Region IV

Senior Project Manager w/attachments
USNRC - NRR Project Directorate IV-1

Senior Resident Inspector w/attachments
USNRC

Environmental Health Division- Program Manager w/attachment

NPG Distribution w/o attachments

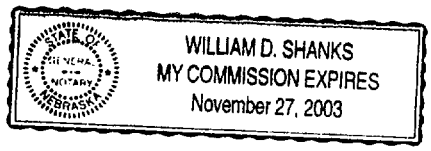
STATE OF NEBRASKA)
)
NEMAHA COUNTY)

John H. Swailes, being first duly sworn, deposes and says that he is an authorized representative of the Nebraska Public Power District, a public corporation and political subdivision of the State of Nebraska; that he is duly authorized to submit this correspondence on behalf of Nebraska Public Power District; and that the statements contained herein are true to the best of his knowledge and belief.

John H. Swailes

Subscribed in my presence and sworn to before me this 17 day of March, 2000.

William D. Shanks
NOTARY PUBLIC



Correspondence No: NLS2000018

The following table identifies those actions committed to by the District in this document. Any other actions discussed in the submittal represent intended or planned actions by the District. They are described to the NRC for the NRC's information and are not regulatory commitments. Please notify the NL&S Manager at Cooper Nuclear Station of any questions regarding this document or any associated regulatory commitments.

COMMITMENT	COMMITTED DATE OR OUTAGE
None	

ATTACHMENT 1
PROPOSED TECHNICAL SPECIFICATION CHANGE TO
INCORPORATE GENERIC LETTER 99-02 LABORATORY TESTING
REQUIREMENTS FOR NUCLEAR-GRADE ACTIVATED CHARCOAL
COOPER NUCLEAR STATION
NRC DOCKET NO. 50-298, LICENSE DPR-46

1.0 INTRODUCTION

The Nebraska Public Power District (District) requests that the NRC approve a proposed Technical Specification change to incorporate laboratory testing recommendations of Generic Letter 99-02 (GL 99-02), "Laboratory Testing of Nuclear-Grade Activated Charcoal." The purpose of this proposed Technical Specification change is to resolve Nuclear Regulatory Commission (NRC) concerns identified in Generic Letter 99-02 regarding American Society for Testing and Materials (ASTM) D3803-1979, " Standard Test Methods for Radioiodine Testing of Nuclear-Grade Gas-Phase Adsorbents," test parameter tolerances, instrument calibration requirements, and test protocol. GL 99-02 stated that the NRC considers ASTM D3803-1989, "Standard Test Method for Nuclear-Grade Activated Carbon," to be the most accurate and realistic protocol for testing new and used charcoal in Engineered Safety Feature (ESF) ventilation systems because it offers the greatest assurance for accurately and consistently determining the charcoal capability. This submittal proposes to revise the Cooper Nuclear Station (CNS) Technical Specifications to incorporate the recommended GL 99-02 laboratory test protocol of ASTM D3803-1989 for ESF ventilation system charcoal samples. Following NRC approval of this change, and issuance of an NRC Safety Evaluation Report associated with Reference 3, the CNS Updated Safety Analysis Report (USAR) will be changed to reflect the revised test protocol.

ESF ventilation systems at CNS are used to reduce the potential onsite and offsite consequences of a radiological accident by adsorbing radioiodine. To ensure that the charcoal filters used in these systems will perform in a manner consistent with the CNS USAR, CNS Technical Specifications specify requirements to periodically conduct laboratory testing of charcoal samples taken from these systems. CNS Technical Specification 5.5.7.c currently requires that ESF ventilation charcoal samples be tested in accordance with ASTM D3803-1979 which was most recently reviewed by the NRC during CNS Technical Specification Amendment 178, Improved Technical Specifications, issued July 31, 1998. Prior to Improved Technical Specification implementation in August 1998, the CNS Technical Specifications Bases referenced the American National Standards Institute (ANSI) N509, "Nuclear Power Plant Air-Cleaning Units and Components" and ANSI N510, "Testing of Nuclear Air-Cleaning Systems" testing protocol.

As discussed in Reference 4, incorporation of GL 99-02 recommendations require a revision to the Cooper Nuclear Station (CNS) Design Basis Accident (DBA) radiological dose consequence analyses such that the charcoal filter efficiency safety factors described in Generic Letter 99-02 could be credited. The current radiological consequence analyses of the CNS design basis events assume a particular ESF charcoal filter adsorption efficiency when calculating offsite and control

room operator doses. The laboratory test acceptance criteria discussed in GL 99-02, and used in the proposed GL 99-02 Technical Specification change, contains a safety factor to ensure that the efficiency assumed in the accident analysis is still valid at the end of the operating cycle. GL 99-02 states that ASTM D3803-1989 is a more accurate and demanding test than ASTM D3803-1979, thus a minimum safety factor of 2 can be used to determine the Technical Specification acceptance criteria for charcoal filter efficiency. A proposed revision to the CNS DBA radiological assessment calculational methodology was submitted to the NRC via Reference 3 and includes revised charcoal filter efficiencies utilizing the safety factor guidance provided in GL 99-02. The charcoal efficiency used in the CNS DBA radiological assessment methodology submittal, combined with an allowable safety factor of 2, provides the basis for the 97.5% methyl iodide removal rate acceptance criteria used in the attached GL 99-02 Technical Specification proposed revision.

This attachment contains the description of the proposed Technical Specification change, the basis for the change, the attendant 10 CFR 50.92 evaluation and an environmental impact evaluation. Attachment 2 contains a copy of the current CNS Technical Specification page affected by this change and a copy of the proposed CNS Technical Specification change in red-line/strike-out form. Attachment 3 contains the affected CNS Technical Specification page in final typewritten form. USAR changes associated with the proposed Technical Specification amendment will be processed in accordance with 10CFR50.71(e) pending approval of this proposed license change and the issuance of an NRC Safety Evaluation Report associated with Reference 3.

As discussed in Generic Letter 99-02, conflicting regulatory guidance, complex and ambiguous standards, and the belief that ASTM D3803-1979 standard would satisfy Technical Specification requirements, contributed to industry confusion regarding charcoal testing. Although the District has been using an earlier version of ASTM D3803, the District believes that, on the basis of the information provided in Generic Letter 99-02 and available laboratory test results, charcoal in use is not degraded to an extent that would adversely affect control room habitability or public health and safety. This confidence in charcoal performance, the low probability of a design-basis accident and the conservatism inherent in the design-basis dose calculations, including the conservatism in the design-basis source term, justify the time frames for the resolution of this matter.

The District requests that the NRC exercise enforcement discretion, consistent with Section VII.B.6 of the Enforcement Policy as described in Generic Letter 99-02 until such time that the CNS DBA radiological assessment methodology, submitted via Reference 3, and this GL 99-02 Technical Specification change request are approved by the NRC and implemented at CNS.

2.0 DISCUSSION

Control Room and Standby Gas Treatment Engineered Safety Feature (ESF) Ventilation System Functions

A Control Room Emergency Filter System (CREFS) is installed to provide protection for Control Room personnel in the event of possible airborne radioactivity in the vicinity of the Control Room Ventilation System intake. Upon receipt of an initiation signal the CREFS automatically switches to the emergency bypass mode of operation. The CREFS emergency bypass mode may also be manually initiated. Once initiated, control room ventilation intake air is directed through the CREFS bypass filter system before entering the Control Room. The CREFS is sized for normal minimum outside air intake requirements. Additional details on the CREFS are provided in CNS USAR Chapter X.10 and CNS Technical Specification Bases B 3.7.4.

When required to operate, the Standby Gas Treatment System (SGTS) processes effluent from the reactor building (secondary containment) to limit discharge of radioactive material to the environs. With the reactor building isolated, the SGTS has the necessary capacity to perform its design function which is to reduce and maintain the reactor building at a subatmospheric pressure of - 0.25 inches water gauge (under neutral wind conditions) with an air infiltration rate of no more than 100% of the reactor building volume per day. An electric heating element system is included in the SGTS upstream of the SGTS charcoal adsorber. The heater system will reduce the relative humidity of the charcoal adsorber inlet airstream from 100% to 70% when the SGTS is operating. Charcoal filters are installed in the SGTS to provide the minimum required iodine efficiencies assumed in the CNS design basis accident analysis. The performance of the SGTS is such that the radioactivity released to the environs is kept to a practical minimum and well within the guideline values of 10 CFR 20 and 10 CFR 100. Additional details on the SGTS are provided in CNS USAR Chapter V.3. and Technical Specification Bases B 3.6.4.3.

Laboratory Testing of ESF Ventilation Systems Charcoal

ESF ventilation systems at Cooper Nuclear Station (CNS) reduce the potential onsite and offsite consequences of a radiological accident by adsorbing radioiodine. To ensure that the charcoal filters used in these systems will perform in a manner that is consistent with the CNS licensing basis, CNS Technical Specifications contain requirements to periodically conduct laboratory testing of charcoal samples taken from these systems.

Based on the information provided in Generic Letter 99-02 there have been noted differences in filter efficiencies when comparing the test results from ASTM D3803-1979 and ASTM D3803-1989. When tested in accordance with ASTM D3803-1979, charcoal samples appear to have high efficiencies. However, when the same charcoal samples were tested in accordance with ASTM D3803-1989, reductions in efficiencies were noted. This reduction in filter efficiency can negatively impact the offsite and control room operator design basis accident dose calculations. Additional information regarding the differences between ASTM D3803-1989

and other laboratory test methods for ESF ventilation system charcoal, such as ASTM D3803-1979, is discussed in GL 99-02.

New and used ESF ventilation system charcoal have been tested differently on the belief that a long equilibration period would regenerate the used charcoal by removing contaminants adsorbed by the charcoal during normal plant use. Technical evaluations conducted by an NRC contractor demonstrated that this is not true. The NRC has determined that ASTM D3803-1989 should be used for both new and used charcoal because it allows for accurately monitoring the degradation of the charcoal over time. Thus, ASTM D3803-1989 specifies testing both used and new charcoal in the same manner. The results from new charcoal tested via ASTM D3803-1989 present a solid baseline for the initial capability of the charcoal. Using ASTM D3803-1989 to test used charcoal is a very accurate and reproducible method for determining the capability of the charcoal. By comparing the results of the tests performed on used charcoal with the baseline test performed on new charcoal, the level of the charcoal's degradation can be ascertained. The two remaining laboratories that test nuclear-grade activated charcoal, including the laboratory used by the District to conduct laboratory surveillance testing of ESF ventilation system charcoal samples, have resolved the poor reproducibility problems identified by the NRC by performing all tests with calibrated equipment that is capable of maintaining the tight tolerances of the test parameters as specified in ASTM D3803-1989.

3.0 DESCRIPTION OF CHANGES

As discussed in GL 99-02, the NRC considers ASTM D3803-1989 to be the most accurate and realistic protocol for laboratory testing of ESF ventilation system charcoal samples because it offers the greatest assurance of accurately and consistently determining the capability of charcoal. This standard requires the charcoal testing to be conducted at a constant low temperature, provides for smaller tolerances in temperature, humidity, and air flow test parameters, and requires humidity pre-equilibration.

CNS Technical Specifications currently require laboratory testing of ESF ventilation system charcoal per ASTM D3803-1979 with the following revisions:

For the CREFS, the test is conducted at 39 ft/min instead of 40 ft/min due to filter face area and system flow rate.

For the SGTS, the test is conducted at 70% relative humidity, due to heaters in the system, and at 27 ft/min instead of 40 ft/min due to the filter face area and system flow rate.

Testing common to both SGTS and CREFS samples include:

- Sample is brought to temperature equilibrium at 30°C and held for 16.0 hours.
- 2 hour challenge period with humidity as specified is introduced with the 1.75 mg/m^3 of radio-labeled CH_3I for 2 hours.
- Elution period - Flow is maintained without changing relative humidity or temperature for a period of 4 hours.

A copy of the current CNS Technical Specification requirement for laboratory testing of ESF ventilation system charcoal is presented in Attachment 2 and is supplemented by the information presented in Table 1.

The proposed CNS Technical Specification change will require laboratory testing of the charcoal in accordance with ASTM D3803-1989. The essential elements of ASTM D3803-1989 are as follows:

- 70% or 95% relative humidity.
- 2 hour minimum thermal stabilization period.
- 16 hour pre-equilibration time with air at 30°C and system specific relative humidity.
- 2 hour equilibration time with air at 30°C and system specific relative humidity.
- 1 hour challenge period with gas at 30°C and system specific relative humidity.
- 1 hour elution period with air at 30°C and system specific relative humidity.

The following will apply to the proposed testing;

For the SGTS, the test will be conducted at 70% relative humidity, due to heaters in the system, and at 33 ft/min instead of 40 ft/min due to CNS specific SGTS filter face area and system flow rate.

Laboratory charcoal test temperatures, methyl iodide concentration and relative humidity test values specified in the proposed Technical Specification change were not revised since the existing CNS Technical Specification values already reflect the ASTM D3803-1989 temperature, methyl iodide, and humidity test parameter limits for systems with or without ESF system relative humidity (RH) controls. ESF ventilation system flow rates used for the proposed Technical Specification change reflect conservative SGTS and CREFS flow rate design calculation data utilizing Regulatory Guide 1.52, Revision 2 guidance for establishing minimum acceptable residence time. Based upon revised SGTS CNS design calculations conducted in part, to support this submittal, the SGTS system flow rate will be revised from 27 to 33 feet per minute. The existing CREFS flow rate design calculation resulted in a flow test criteria nearly equal to the GL 99-02 recommended flow rate, thus the GL 99-02 value of 40 feet per minute will be used for the CREFS flow rate.

The methyl iodide removal rate acceptance criteria of 97.5% used in the proposed Technical Specification is based on the DBA radiological consequence analysis submitted under Reference 3 and utilizes a safety factor of 2 as described in GL 99-02. A copy of the proposed CNS Technical Specification requirement for laboratory testing of ESF ventilation system charcoal is presented in Attachment 3. Table 1 provides additional supporting information.

Table 1. Supplemental ESF Ventilation System Data

	Current System Data		Revised System Data	
	CREFS	SGTS	CREFS	SGTS
Individual Charcoal Bed Thickness: (inches)	2	2	2	2
Total Residence Time Per Bed Depth: (sec)	0.25	0.37	0.25	0.30

The major differences between the current CNS Technical Specification charcoal laboratory testing protocol of ASTM D3803-1979 and the proposed CNS Technical Specification change to laboratory test charcoal per ASTM D3803-1989 are presented in Table 2.

Table 2. Major Differences Between ASTM D3803-1989 and ASTM D3803-1979 Testing Protocol

TEST PROTOCOL	ASTM D3803-1989	ASTM D3803-1979
Pre-Equilibration (16 hour duration for both)	Temperature and humidity	Temperature only
2 hour equilibration time (temp & humidity)	yes	no
Challenge time	1 hour	2 hours
Elution time	1 hour	4 hours

4.0 JUSTIFICATION

The NRC considers ASTM D3803-1989 to be the most accurate and realistic protocol for laboratory testing of ESF ventilation system charcoal samples because it offers the greatest assurance of accurately and consistently determining the capability of charcoal, thus the basis for this proposed change. ASTM D3803-1989 requires the charcoal testing to be conducted at a constant low temperature, provides for smaller tolerances in temperature, humidity, and air flow test parameters, and requires humidity pre-equilibrium. The determination of the appropriate test conditions for the proposed change are based upon ASTM D3803-1989 test criteria and the information presented in GL 99-02.

Analyses of CNS design-basis accidents assume a particular ESF ventilation system charcoal filter adsorption efficiency when calculating offsite and control room operator doses. Charcoal filter samples are periodically tested to determine whether the ESF ventilation system filter adsorber efficiency is greater than that assumed in the design-basis accident analyses. The laboratory test acceptance criteria contains a safety factor to ensure that the efficiency assumed in the accident analyses is still valid at the end of the operating cycle. Because ASTM D3803-1989 is a more accurate and demanding test than older tests, a safety factor as low as 2 may be used for determining the acceptance criteria for charcoal filter efficiency. This safety factor can be used for systems with or without humidity control because the lack of humidity control is accounted for in the test conditions, and is consistent with NRC approved safety factor for plants which have already adopted the ASTM D3803-1989 standard on a case-by-case basis. The methyl iodide removal rate acceptance criteria of 97.5% used in the proposed CNS Technical Specification is based on the DBA radiological consequence analysis submitted under Reference 3 and utilizing a safety factor of 2 as described in GL 99-02. It should be noted that the proposed CNS Technical Specification change utilizes the terminology "Methyl iodide removal rate" which can be related to the "penetration" terminology used in GL 99-02 by the equation;

Penetration = 100%- (methyl iodide removal rate%).

Thus, the methyl iodide removal rate acceptance criteria has been revised from 99% to 97.5% for ESF ventilation system laboratory charcoal testing.

Laboratory charcoal test temperatures, methyl iodide concentration and relative humidity test values specified in the proposed Technical Specification change were not revised since the existing CNS Technical Specification values already reflect the ASTM D3803-1989 temperature and humidity test parameters for systems with and without ESF system RH controls. ESF ventilation system flow rates used for the proposed Technical Specification change reflect conservative SGTS and CREFS flow rate design calculation data utilizing Regulatory Guide 1.52, Revision 2 guidance for establishing minimum acceptable residence time. Based upon revised SGTS CNS design calculations conducted in part, to support this submittal, the SGTS flow rate will be revised from 27 to 33 feet per minute. The existing CREFS flow rate design calculation resulted in a flow test criteria nearly equal to the GL 99-02 recommended flow rate, thus the GL 99-02 value of 40 feet per minute will be used for the CREFS flow rate.

The figure of merit for containment performance in Probabilistic Safety Assessment evaluations is Large Early Release Frequency (LERF). The LERF spectrum for CNS is dominated by the following core damage scenarios: Station Blackout vessel melt-through at high pressure in less than 4 hours; interfacing systems Loss of Coolant Accident (low to high pressure piping interface) with failure to isolate; Anticipated Transient Without Scram with subsequent failure of backup reactivity control; transients with total loss of all core cooling; and failure of the passive pressure suppression function of the Mark I containment. Considering the severe nature of these plant damage states and the associated primary containment failure mode, the benefits provided by the engineered safety features of secondary containment (and control room ventilation) are negligible in reducing LERF. Therefore, the risk significance of the relatively benign changes being considered and the plant response for the deterministic design basis accidents of the USAR

Chapter XIV is considered to be well within the acceptance limits for changes to the probabilistic based LERF (less than 1E-07/year change in LERF.)

5.0 NO SIGNIFICANT HAZARDS CONSIDERATION EVALUATION

10 CFR 50.91(a)(1) requires that licensee requests for operating license amendments be accompanied by an evaluation of significant hazards posed by the issuance of the amendment. This evaluation is to be performed with respect to 10 CFR 50.92(c). The following evaluation meets those requirements. The evaluation is based on the assumption that Nebraska Public Power District has received a Safety Evaluation Report associated with the design basis accident radiological assessment calculational methodology revision submitted to the Nuclear Regulatory Commission (NRC) under Reference 3.

No Significant Hazards Consideration Evaluation

1. Does not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed charcoal testing changes and explicit reference to American Society for Testing and Materials (ASTM) D3803-1989 nuclear-grade activated charcoal test protocol do not affect Engineered Safety Feature (ESF) ventilation system operation or performance, reliability, actuation setpoints, or accident mitigation capabilities. The proposed changes also do not affect the operation and performance of any other equipment important to safety at Cooper Nuclear Station (CNS). ASTM D3803-1989 is a more accurate and demanding test which ensures that the charcoal filter efficiencies assumed in the CNS accident dose analysis are maintained. The proposed changes involve ESF ventilation system charcoal testing only and do not affect accident initiators. Therefore the proposed changes do not significantly increase the probability or consequences of an accident previously evaluated, as revised by the design basis accident radiological assessment calculational methodology revision submitted to the NRC under Reference 3.

2. Does not create the possibility for a new or different kind of accident from any accident previously evaluated.

   The charcoal testing changes, and explicit reference to ASTM D3803-1989 nuclear-grade activated charcoal test protocol, do not affect ESF ventilation system operation or performance, or the operation and performance of any other equipment important to safety at CNS. The proposed changes clarify and explicitly identify the testing of the ESF ventilation system charcoal samples. No new or different accident scenarios, transient precursors, failure mechanisms, plant operating modes, or limiting single failures are introduced as a result of these changes. Therefore, the possibility of a new or different kind of accident from that previously evaluated, as revised by the design basis accident radiological assessment calculational methodology revision submitted to the NRC under Reference 3, is not created by this change.

3. Does not create a significant reduction in the margin of safety.

   The required performance of the ESF ventilation systems following a design basis accident is not impacted by utilizing a more demanding protocol for charcoal testing. Thus, the margin of safety assumed in the CNS accident analysis, as revised by the design basis accident radiological assessment calculational methodology revision submitted to the NRC under Reference 3, is maintained. Revising the Technical Specifications to clarify charcoal testing methodology and explicitly referencing the charcoal absorber testing being performed does not affect ESF ventilation system performance or operation, or the operation and performance of any other equipment important to safety at CNS. Therefore, these changes do not result in a significant reduction in any margin of safety.

6.0 ENVIRONMENTAL IMPACT EVALUATION

10 CFR 51.22(c)(9) provides criteria for, and identification of, licensing and regulatory actions eligible for categorical exclusion from performing an environmental assessment. A proposed amendment to an operating license for a facility requires no environmental assessment if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant hazards consideration, (2) result in a significant change in the types or significant increase in the amount of any effluents that may be released off-site, or (3) result in an increase in individual or cumulative occupational radiation exposure. The Nebraska Public Power District (District) has reviewed the proposed license amendment and concludes that it meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). The environmental impact evaluation is based on the assumption that the District has received a Safety Evaluation Report associated with the design basis accident radiological assessment calculational methodology revision submitted to the Nuclear Regulatory Commission under Reference 3. Pursuant to 10 CFR 51.22(c), no environmental impact statement or environmental assessment needs to be prepared in connection with issuance of the proposed license change. The basis for this determination is as follows:

1. The proposed license amendment does not involve significant hazards as described previously in the No Significant Hazards Consideration Evaluation.

2. As discussed in the No Significant Hazards Consideration Evaluation, the proposed change to the charcoal sample test protocol for Cooper Nuclear Station Engineered Safety Feature (ESF) ventilation systems does not introduce any new equipment, nor does it require any existing equipment or systems to perform a different type of function than they are presently designed to perform during normal operation. The District has concluded that there will not be a significant increase in the types or amounts of effluents that may be released off-site and these changes do not involve irreversible environmental consequences beyond those already associated with normal operation.

3. The proposed change involves a revision to the Technical Specification requirements for laboratory testing of ESF ventilation system charcoal samples. As discussed in the No Significant Hazards Consideration Evaluation, this change does not affect plant systems or operation. The proposed change requires a more accurate and demanding test of ESF ventilation system charcoal, and assures that the ESF ventilation system charcoal efficiency assumed in the CNS Design Basis Accident radiological dose consequence calculations is maintained. Thus, the proposed change does not increase individual or cumulative occupational radiation exposure beyond that already associated with normal operation.

7.0 CONCLUSION

The District has evaluated the proposed change to the CNS Technical Specification on laboratory testing of ESF ventilation system charcoal samples against the criteria given in 10 CFR 50.92 (c) in accordance with the requirements of 10 CFR 50.91(a)(1). This evaluation has determined that the proposed changes will not: 1) involve a significant increase in the probability or consequences of an accident previously evaluated; 2) create the possibility for a new or different kind of accident from any previously evaluated; or 3) create a significant reduction in the margin of safety. Therefore, for the reasons detailed above, the District requests NRC approval of the proposed amendment.

8.0 REFERENCES

1. Nebraska Public Power District Letter (NLS990117), from John H. Swailes to U.S. Nuclear Regulatory Commission dated December 2, 1999, Response to Generic Letter 99-02, Laboratory Testing of Nuclear-Grade Charcoal.

2. Nebraska Public Power District Letter (NLS990119) from John H. Swailes to U.S. Nuclear Regulatory Commission dated December 8, 1999, Supplemental Response to Generic Letter 99-02, Laboratory Testing of Nuclear-Grade Activated Charcoal.

3. Nebraska Public Power District Letter (NLS990122) from John H. Swailes to U.S. Nuclear Regulatory Commission, dated December 22, 1999, Design Basis Accident Radiological Assessment Calculational Methodology Revision.

4. Nebraska Public Power District Letter (NLS2000003) from John H. Swailes to U.S. Nuclear Regulatory Commission, dated January 31, 2000, Revision of Commitment Date Concerning Submittal of Proposed Technical Specification Change in Response to NRC Generic Letter 99-02.

5. 10 CFR Part 50, Sections, 50.71(e), 50.90, 50.91, and 50.92.

6. 10 CFR 51.22.

7. CNS Technical Specifications Bases B 3.6.4.3 and B 3.7.4.

8. NRC Generic Letter 99-02, Laboratory Testing of Nuclear-Grade Activated Charcoal, dated June 3, 1999, as supplemented by NRC Generic Letter 99-02, (ERRATA): Laboratory Testing of Nuclear Grade Activated Charcoal, dated August 23, 1999.

10. USAR, Chapters V, X and XIV.

11. NEDC Calculation 94-134, Revision 1 and NEDC Calculation 99-072, Revision 0.

12. CNS Technical Specifications 5.5.7.c, Ventilation Filter Testing Program.

ATTACHMENT 2
EXISTING TECHNICAL SPECIFICATION 5.5.7.c AND PROPOSED
MARK-UP CHANGE TO TECHNICAL SPECIFICATION 5.5.7.c
COOPER NUCLEAR STATION
NRC DOCKET NO. 50-298, LICENSE DPR-46

No additional information on this page.

5.5.7 Ventilation Filter Testing Program (VFTP) (continued)

c. Demonstrate for each of the ESF systems that a laboratory test of a sample of the charcoal adsorber, when obtained as described in Regulatory Guide 1.52, Revision 2, Section C.6.b shows the methyl iodide removal rate greater than or equal to the value specified below when tested in accordance with ASTM D3803-1979 at the conditions specified below.

	ESF Ventilation System	
	SGT System	Control Room Emergency Filter System
Methyl iodide removal rate: (%)	≥ 99	≥ 99
Methyl iodide concentration: (mg/m^3)	≥ 1.75	≥ 1.75
Flow rate: (feet per minute)	≥ 27	≥ 39
Temperature: (degrees C)	≤ 30	≤ 30
Relative Humidity: (%)	≥ 70	≥ 95

d. Demonstrate for each of the ESF systems that the pressure drop across the combined HEPA filters, the prefilters, and the charcoal adsorbers is less than the value specified below when tested at the system flowrate specified as follows:

ESF Ventilation System	Delta P (inches Wg)	Flowrate (cfm)
SGT System	< 6	1602 to 1958
Control Room Emergency Filter System	< 6	810 to 990

(continued)

5.5 Programs and Manuals

5.5.7 Ventilation Filter Testing Program (VFTP) (continued)

c. Demonstrate for each of the ESF systems that a laboratory test of a sample of the charcoal adsorber, when obtained as described in Regulatory Guide 1.52, Revision 2, Section C.6.b shows the methyl iodide removal rate greater than or equal to the value specified below when tested in accordance with ASTM D3803-~~1979~~ 1989 at the conditions specified below.

	ESF Ventilation System	
	SGT System	Control Room Emergency Filter System
Methyl iodide removal rate: (%)	≥ ~~99~~ 97.5	≥ ~~99~~ 97.5
Methyl iodide concentration: (mg/m^3)	≥ 1.75	≥ 1.75
Flow rate: (feet per minute)	≥ ~~27~~ 33	≥ ~~39~~ 40
Temperature: (degrees C)	≤ 30	≤ 30
Relative Humidity: (%)	≥ 70	≥ 95

d. Demonstrate for each of the ESF systems that the pressure drop across the combined HEPA filters, the prefilters, and the charcoal adsorbers is less than the value specified below when tested at the system flowrate specified as follows:

ESF Ventilation System	Delta P (inches Wg)	Flowrate (cfm)
SGT System	< 6	1602 to 1958
Control Room Emergency Filter System	< 6	810 to 990

(continued)

ATTACHMENT 3
PROPOSED CHANGE TO TECHNICAL SPECIFICATION 5.5.7.c
COOPER NUCLEAR STATION
NRC DOCKET NO. 50-298, LICENSE DPR-46

No additional information on this page.

5.5.7 Ventilation Filter Testing Program (VFTP) (continued)

c. Demonstrate for each of the ESF systems that a laboratory test of a sample of the charcoal adsorber, when obtained as described in Regulatory Guide 1.52, Revision 2, Section C.6.b shows the methyl iodide removal rate greater than or equal to the value specified below when tested in accordance with ASTM D3803-1989 at the conditions specified below.

	ESF Ventilation System	
	SGT System	Control Room Emergency Filter System
Methyl iodide removal rate: (%)	≥ 97.5	≥ 97.5
Methyl iodide concentration: (mg/m^3)	≥ 1.75	≥ 1.75
Flow rate: (feet per minute)	≥ 33	≥ 40
Temperature: (degrees C)	≤ 30	≤ 30
Relative Humidity: (%)	≥ 70	≥ 95

d. Demonstrate for each of the ESF systems that the pressure drop across the combined HEPA filters, the prefilters, and the charcoal adsorbers is less than the value specified below when tested at the system flowrate specified as follows:

ESF Ventilation System	Delta P (inches Wg)	Flowrate (cfm)
SGT System	< 6	1602 to 1958
Control Room Emergency Filter System	< 6	810 to 990

(continued)