Nebraska Public Power District

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NSD940428
April 26, 1994

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

Subject: Proposed Change No. 126 to Technical Specifications
Intermittent Operation of the Hydrogen/Oxygen Analyzers
Cooper Nuclear Station
NRC Docket No. 50-298, DPR-46

Gentlemen:

In accordance with the applicable provisions specified in 10 CFR 50, the Nebraska Public Power District (District) requests that the Cooper Nuclear Station (CNS) Technical Specifications be revised as specified in the attachment. This proposed change revises Tables 3.2.H and 3.2.F, including the associated notes, to clarify the requirements regarding the intermittent sampling of hydrogen and oxygen concentrations during normal plant operations. This change would make explicit that intermittent operation of one division of the Hydrogen/Oxygen (H_2/O_2) Concentration Analyzer System is all that is required in order to meet the existing Limiting Condition for Operations and Surveillance Requirements applicable to hydrogen and oxygen monitoring during normal plant operations. Additional changes related to this proposed change include the consolidation of requirements of the O_2 portion of the H_2/O_2 Concentration Analyzer System with the H_2 portion of this system, along with other minor editorial changes.

The attached contains a description of the proposed change, the attendant 10 CFR 50.92 evaluation, and the CNS applicable revised Technical Specification pages in both final and marked up forms. This proposed change has been reviewed by the necessary Safety Review Committees and incorporates all amendments to the CNS Facility Operating License through Amendment 165 issued July 16, 1993.

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

If you have any questions or require any additional information, please contact me.

Sincerely,

G. R. Horn
Vice President - Nuclear

GRH/dnm
Attachment

A001

cc: H. R. Borchert
Department of Health
State of Nebraska

NRC Regional Office
Region IV
Arlington, TX

NRC Resident Inspector
Cooper Nuclear Station

STATE OF NEBRASKA)
)ss
NEMAHA COUNTY)

G. R. Horn, 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 request on behalf of Nebraska Public Power District; and that the statements contained herein are true to the best of his knowledge and belief.

G. R. Horn

Subscribed in my presence and sworn to before me this 26th day of April, 1994.

Mary Frances Armstrong
NOTARY PUBLIC

GENERAL NOTARY-State of Nebraska
MARY FRANCES ARMSTRONG
My Comm. Exp. Jun. 11, 1996

REVISED TECHNICAL SPECIFICATIONS
Proposed Change No. 126
Intermittent Operation of the Hydrogen/Oxygen Analyzers

Revised Pages

65, 66, 67a, 67b, 80,
82a, 87a, 164, 180, 181

I. INTRODUCTION

The Nebraska Public Power District (District) requests that the NRC approve Proposed Change No. 126 to the Cooper Nuclear Station (CNS) Technical Specifications described below. The proposed change revises Tables 3.2.H, 3.2.F, 4.2.H, and 4.2.F, including the associated notes, in order to clarify the operating requirements of the Primary Containment Hydrogen/Oxygen (H_2/O_2) Concentration Analyzers during normal plant operations. This change explicitly defines that the intermittent sampling of hydrogen, and the sampling of oxygen (twice weekly) per existing surveillance requirements, during normal plant operations, may be accomplished through the methodology of operating one division of the H_2/O_2 Concentration Analyzer on an as needed (intermittent) basis.

Other minor administrative changes are also proposed to correct typographical and editorial errors, delete a specification that is no longer applicable, and to improve the consistency and clarity of the CNS Technical Specifications.

II. BACKGROUND

Note 2 to Table 3.2.H of the CNS Technical Specifications, "Post-Accident Monitoring Instrumentation Requirements" currently states that the normal condition of the primary containment hydrogen concentration analyzer, with two channels operable, is with one analyzer in the standby mode. This statement inappropriately implies that the other analyzer is continuously operating. The District proposes that a clarification be made to this note to state that the normal condition of this equipment may include operation on an intermittent basis during normal plant operations. The basis for this clarification is contained in the following.

The H_2/O_2 Concentration Analyzer System serves two safety functions: containment integrity monitoring and post-accident monitoring. The initial issuance of NUREG-0737, Item II.F.1.6 required that hydrogen concentrations be monitored continuously during post-accident conditions. Subsequent clarifications to this item (Reference: "Clarification of TMI Action Plan Requirements" issued October 31, 1980, Item II.F.1, Attachment 6) states, in part, that continuous indication of hydrogen concentration is not required during normal operation. This clarification also states that if an indication is not available at all times, continuous indication and recording shall be functioning within 30 minutes of the initiation of safety injection due to a LOCA.

As for the containment integrity monitoring function, the H_2/O_2 Concentration Analyzer System provides one of the means of verifying

primary containment integrity by checking oxygen concentrations during normal plant operations. Limiting Condition for Operation (LCO) 3.7.A.5 requires oxygen concentrations to be less than 4% by volume in the primary containment during normal plant operations, with certain exceptions not pertinent to this discussion. This LCO requirement is verified per Surveillance Requirement (SR) No. 4.7.A.5 which requires primary containment oxygen concentration to be measured and recorded at least twice weekly. These LCO and SR requirements are further supported by the Bases Section (No. 3.7.A & 4.7.A) states, in part, that oxygen concentration will be determined at least twice a week.

Intermittent sampling during normal plant operations is consistent with the verification of the existing LCO requirements through the applicable surveillance requirements. Furthermore, the absence of a continuous O_2 indication is a negligible safety issue because the primary containment is pressurized with nitrogen gas, which prohibits the in-leakage of oxygen. There are several other more meaningful and immediate indications, available to the operator, which would identify a containment breach. All pneumatic components in the primary containment are supplied by nitrogen when the primary containment is inerted. Periodic oxygen sampling (per SR 4.7.A.5) is sufficient to ensure that oxygen is not present during normal plant operations. For the above reasons, the District desires to clarify the notes located in Table 3.2.H to explicitly reflect that intermittent sampling may be allowed.

Surveillances are conducted to monitor the performance of the Primary Containment H_2/O_2 Concentration Analyzers. These surveillances are to assure that sufficient operating life of the analyzer components always exist so that continuous H_2/O_2 monitoring is available for the required time following a design basis accident.

As an additional clarification, the District also desires to consolidate the H_2 and O_2 monitoring requirements into a single LCO and Surveillance Requirement, located in Table 3.2.H. The current instrumentation test and calibration frequency requirements for both the H_2 and O_2 portions of the analyzers are also being consolidated into Table 4.2.H in order to be consistent with the proposal to consolidate the H_2 and O_2 requirements into Table 3.2.H. A clarification has been made to the once/day instrument check requirement of the O_2 portion of the analyzers to make obvious that this requirement is applicable to the inservice analyzer only.

Other enhancements to improve readability and consistency are also being made in this proposed change. First, a footnote has been added to Tables 3.2.F and 4.2.F to inform the reader that the applicable requirements of the oxygen portion of the H_2/O_2 Concentration Analyzer System are relocated into Tables 2.2.H and 4.2.H. Second, terms which are defined in the CNS Technical Specifications are being capitalized. This practice, which highlights terms with special meaning, has been followed in other sections of the CNS Technical Specifications, and is also the practice followed in Standard Technical Specifications. In some specifications where the intent was clearly used to define a term but different wording was used, the wording is revised to use the defined term. Other administrative corrections include the addition of obviously missing words, and the deletion of an LCO that is no longer in force. These enhancements have been reviewed to ensure that they are editorial in nature and do not change the intent of any specification.

II. DESCRIPTION OF CHANGES

The changes to the CNS Technical Specifications consist of: 1) Revising Note 2 (applicable to the H_2/O_2 analyzers) of Table 3.2.H, "Post-Accident Monitoring Instrumentation Requirements" to clarify intermittent operation of the H_2/O_2 analyzers may also be included as a normal condition. A corresponding paragraph is also proposed in the corresponding BASES section; 2) Moving the information concerning the Oxygen Concentration portion (including Note 3) of the H_2/O_2 analyzers from Table 3.2.F, "Primary Containment Surveillance Instrumentation", and consolidating it with the Hydrogen Concentration portion located in Table 3.2.H. For consistency, the O_2 instrumentation test and calibration frequency requirements contained in Table 4.2.F will be located in 4.2.H; and 3) Other editorial changes, such as the capitalization of defined terms, equipment nomenclature changes, and a new footnote for Tables 3.2.F and 4.2.F.

Please note that, in making the specific changes associated with 2) above, the oxygen concentration portion of the H_2/O_2 Concentration Analyzer System, with two inoperable channels, would require an action of restoring at least one channel to operable status within 7 days or be in at least hot shutdown within 12 hours, as opposed to the present requirement of having to initiate an orderly shutdown within 24 hours.

The specific changes proposed to the CNS Technical Specifications are detailed in Appendix A. A mark-up of the affected CNS Technical Specification pages are provided in Appendix B, and the new affected CNS Technical Specification pages are provided in Appendix C.

To provide sufficient time for licensed operator training and the revision of station procedures, the District requests the amendment implementing these changes become effective thirty days after its issuance. As an administrative note, Page 87a is subject to revision by Proposed Technical Specification change No. 91.

III. SIGNIFICANT HAZARDS DETERMINATION

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 the criteria given in 10 CFR 50.92(c). The following analysis meets these requirements.

Evaluation of this Amendment with Respect to 10 CFR 50.92

The enclosed Technical Specifications change is judged to involve no significant hazards based on the following:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Evaluation

The first part of this license amendment request involves the revision of Table 3.2.H, "Post-Accident Monitoring Instrumentation Requirements", and the associated Bases section, to clarify that as needed (intermittent) operation of the Hydrogen/Oxygen (H_2/O_2) Concentration Analyzer System during normal plant operations is permitted. This system serves two safety functions: containment integrity monitoring and post-accident monitoring. Because this system's function is strictly related to monitoring, there is no potential for this system to cause a design basis accident. For normal plant operations, intermittent sampling of H_2/O_2 concentrations is consistent with existing Surveillance Requirement 4.7.A.5, which ensures the primary containment oxygen concentration limits are maintained. Intermittent sampling during normal plant operations will reduce service-related wear on the system equipment. The requirement to continuously monitor H_2/O_2 concentrations during the applicable post-accident time frame is not affected by this part of the proposed change. This part of the proposed change is considered purely as a clarification and does not involve a change in plant settings that affect plant operation responses, nor does it affect the plant operations. Therefore, this part of the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The second part of this license amendment request consists of moving the information (including applicable notes) concerning the oxygen concentration portion of the H_2/O_2 analyzers from Table 3.2.F, "Primary Containment Surveillance Instrumentation", and consolidating it with the hydrogen concentration portion of Table 3.2.H. Other than making a new action statement applicable, this change is editorial in nature by having a single table contain the requirements for the H_2/O_2 analyzers. The new LCO action statement, which was previously only applicable to the H_2 portion of the analyzers, will be applicable to the O_2 portion as well. The LCO action statement, requiring hot shutdown within 12 hours for two inoperable channels out of service for more than 7 days, is more restrictive than requiring an orderly shutdown to be initiated within 24 hours (currently applicable to O_2 portion). For consistency, the O_2 instrumentation calibration and test frequency requirements are being relocated to Table 4.2.H. This consolidation does not result in a change in the requirements. There are no setpoint changes, changes to plant equipment, changes in maintenance, or changes in plant operations. Therefore, this part of the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The third part of this license amendment request consists of editorial changes not directly related to the previously described changes. These changes include the capitalization of defined terms, equipment nomenclature changes (equipment identification designations), replacing informal terms with defined terms, addition of a new footnote for Tables 3.2.F and 4.2.F, and the deletion of a LCO that is no longer applicable. These changes are editorial in nature and have no impact on plant equipment, plant design, or

operations. These editorial changes do not modify or add any initiating parameters. Therefore, this part of the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility for a new or different kind of accident from any accident previously evaluated?

Evaluation

The first part of this license amendment request involves the revision of Table 3.2.H, and the associated Bases section, to clarify that intermittent operation of the Hydrogen/Oxygen (H_2/O_2) Concentration Analyzer System during normal plant operations is permitted. Because this system's function is strictly related to monitoring, there is no potential for this system to cause a new or different kind of accident. This part of the proposed change does not affect the requirements of this system to operate continuously under post-accident conditions. This part of the proposed change is simply a clarification and does not involve the creation, deletion, or modification of the function of any structure, system, or component, nor does this change introduce or change any mode of plant operation. This part of the proposed change does not create the possibility for a new or different kind of accident from any accident previously evaluated.

The second part of this license amendment request consists of moving the information (including applicable notes) concerning the oxygen concentration portion of the H_2/O_2 analyzers from Tables 3.2.F and 4.2.F, and consolidating it with the hydrogen concentration portion of Tables 3.2.H and 4.2.H. Other than applying the H_2 LCO action statement, concerning two inoperable channels, to O_2 as well, this part of the proposed change is editorial in nature. The new LCO action statement is more restrictive than the LCO action statement currently applicable to O_2 portion of the H_2/O_2 Concentration Analyzer System. This part of the proposed change does not involve the modification, addition, or deletion of any plant equipment, nor does it change or introduce any new mode of plant operation. This part of the proposed change does not create the possibility for a new or different kind of accident from any accident previously evaluated.

The third part of this license amendment request consists of editorial changes not directly related to the previously described changes. These changes include the capitalization of defined terms, equipment nomenclature changes (equipment number designations), a new footnote for Tables 3.2.F and 4.2.F, replacement of informal terms with defined terms, and deletion of an non-applicable LCO. These changes are editorial in nature and do not involve any alteration to plant design, setpoints, or operating parameters, nor do they introduce or change any mode of plant operation. Therefore, this part of the proposed change does not create the possibility for a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change create a significant reduction in the margin of safety?

Evaluation

The first part of this license amendment request involves the revision of Table 3.2.H and the associated Bases section, to clarify that intermittent operation of the H_2/O_2 Concentration Analyzer System during normal plant operations is permitted. This system provides strictly a monitoring function. Intermittent operation will not affect the ability to ensure that primary containment oxygen concentrations are being maintained since Surveillance Requirement 4.7.A.5 continues to require that oxygen concentration be measured twice a week. Intermittent operation of the primary containment hydrogen analyzers during normal plant operations conforms to NRC guidance given in the clarifications to NUREG-0737, Item II.F.1.6, issued October 31, 1980. The requirement to continuously monitor H_2/O_2 concentrations during the applicable post-accident time frame is not affected by this part of the proposed change.

As previously stated, the proposed clarification to allow for intermittent sampling of H_2 and O_2 concentrations during normal plant operations has no impact on the operational margin of safety, and does not affect the instruments' ability to be available to perform continuous monitoring of the post-accident primary containment atmosphere. This part of the proposed change has no effect on plant safety setpoint settings or overall operation of the station, as it pertains to maintaining plant safety margins. Therefore, this part of the proposed change does not create a significant reduction in the margin of safety.

The second part of this license amendment request consists of moving the information (including applicable notes) concerning the oxygen concentration portion of the H_2/O_2 analyzers from Tables 3.2.F and 4.2.F, and consolidating it with the hydrogen concentration portion of Tables 3.2.H and 4.2.H, respectively. The LCO that is proposed (in Table 3.2.H) to be applicable to O_2 portion of the analyzer system is more restrictive than the LCO that is currently applicable (Table 3.2.F). All of the other changes are purely editorial in nature. This portion of the proposed change does not impact the operability determination of installed plant equipment, has nc effect on plant safety setpoint settings, and does not have any effect on plant operations. Therefore, this part of the proposed change does not create a significant reduction in the margin of safety.

The third part of this license amendment request consists of editorial changes not directly related to the previously described changes. These changes include the capitalization of defined terms, use of defined terms instead of informal terms, equipment nomenclature changes (equipment number designations), a new footnote for Tables 3.2.F and 4.2.F, and the deletion of an LCO that is no longer applicable. These individual changes do not involve any change to plant design, equipment, instrument setpoints, or operation. Therefore, this part of the proposed change does not create a significant reduction in the margin of safety.

IV. CONCLUSION

The District has evaluated the individual parts of the proposed change described above 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 this proposed change 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 accident 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 this Proposed Change No. 126.

APPENDIX A

PROPOSED CHANGE NO. 126
Intermittent Operation of the Hydrogen/Oxygen Analyzers

The following is a detailed listing of individual changes associated with Proposed Change No. 126.

1) Intermittent Operation of the H_2/O_2 Analyzers

Page No.	Description of Changes
67b	Modify Note 2, at the bottom of the page to read "With two channels OPERABLE, the normal condition may include sampling intermittently." This note previously required one analyzer to be in the standby mode. Table 3.2.H has been modified so that this note is applicable to both the H_2 and O_2 portions of the analyzer system.
87a	Add a new paragraph to 3.2.H, BASES, Post-Accident Monitoring, to provide a basis for the change on Page 67b.
180	Revise the Bases for 3/4.7.A, Oxygen Concentration, by removing the statement that monitoring of oxygen concentration is not required once primary containment is inerted.

2) Relocation of Information Regarding Oxygen Concentration Monitoring from Tables 3.2.F and 4.2.F to Tables 3.2.H and 4.4.H, respectively

Page No.	Description of Changes
65	Delete last two lines of Table 3.2.F. Information contained in these two lines is located in the last entry of Table 3.2.H which was previously only applicable to the H_2 portion of the analyzer system.
66	Move Note 3, on the bottom of this page, to the bottom of Page 67b. Note that Table 3.2.F no longer contains the requirements for Primary Containment Oxygen Monitoring. Therefore Conditions A, B, and C are no longer applicable. However, new conditions delineated in Action B, and Notes 1, 2, & 3 are applicable. These conditions are the same, except HOT SHUTDOWN is required within the next 12 hours when two channels are inoperable.
67a	Revise the first column, last entry to read "Primary Containment Hydrogen/Oxygen Analyzer" Revise the third column, last entry to specify the instrument range for both hydrogen and oxygen analyzers. Percentage values, which do not represent new

requirements, of 0-10% and 0-30% for oxygen concentration have been specified to replace the term "various". Oxygen concentration ranges were previously controlled by Table 3.2.F.

Revise the fourth column, last entry, to acknowledge the relocated Note 3, associated with the oxygen analyzer.

67b Move Note 3 from bottom of Page 66 and place at the bottom of this page.

80 Move all of the information concerning the Primary Containment Oxygen Concentration Analyzer and relocate this information in Table 4.2.H, Page 82a.

82a Revise the first column, last entry to read "Primary Containment Hydrogen/Oxygen Concentration Analyzer". Add corresponding footnote to require that instrument check is required for the oxygen portion of the inservice analyzer once/day. This requirement was taken from Table 4.2.F and does not represent a modified requirement; simply a clarification of existing requirements.

Revise the third column, last entries to require function test frequency once/month for both H_2/O_2 analyzers. Add the once/quarter calibration frequency requirement for PC-AN-H_2/O_2II. These changes are purely editorial and do not represent a change in requirements.

180 Add a statement in the Bases for 3/4.7.A, Oxygen Concentration, referencing Table 3.2.H for oxygen monitoring instrumentation requirements.

3) Other Editorial Changes

Page No.	Description of Changes
65	Place an asterisk (*) next to the Heading "PRIMARY CONTAINMENT SURVEILLANCE INSTRUMENTATION". Put a footnote at the bottom of the page which reads, "Notes: * Other Primary Containment Surveillance Instrumentation is located in Table 3.2.H - Primary Containment Hydrogen/Oxygen Analyzer"
	In the instrument range column, spell out the terms "inches and feet", replace the dashes with the word "to" in order to be consistent, and remove unnecessary parenthesis.
	In the line item for Drywell Temperature, the instrument identification number is expanded to indicate that five separate drywell temperature indicator channels are installed. These channels were installed at the time of the issuance of the Operating License, but the instrument identification number on line items on this instrument table did not indicate that five separate channel designators were installed. This change will clarify the operability requirements for the Drywell Temperature instrumentation.
66	For consistency with other specifications and with the definitions, the phrase "continued operation" in the action statements of notes 1.A, 1.B, and 2.A is

being replaced with "continued REACTOR POWER OPERATION".

67a Move asterisk (*) to the other side of the colon (:) and change the term "Note" to "Notes" to be consistent with other editorial changes being made to footnotes on other tables.

67b Add the term "oxygen analyzer" to the moved Note 3, at the bottom of the page.

80 Place an asterisk (*) next to the Heading "PRIMARY CONTAINMENT SURVEILLANCE INSTRUMENTATION". Put a footnote at the bottom of the page which reads, "Notes: * Other Primary Containment Surveillance Instrumentation calibration requirements are located in Table 4.2.H - Primary Containment Hydrogen/Oxygen Analyzer"

The instrument identification number in the line item for Drywell Temperature is being expanded to indicate that five separate drywell temperature indicator channels are installed. These channels were installed when the Operating License for CNS was issued, but the channel designators were not listed on this instrument table.

82a Move asterisk (*) to the other side of the colon (:) and change the term "Note" to "Notes" to be consistent with other editorial changes being made to footnotes on other tables. Move the footnote for channel calibration up to where the other footnotes are located.

For the Primary Containment Gross Radiation Monitor RMA-RM-40B, identify the function test frequency as once/month and calibration test frequency is once/cycle. This is not a new requirement and is simply a change in the format the existing requirements are presented.

164 LCO 3.7.A.5.e is being deleted since the exemption it provided from LCOs 3.7.A.5.a through 5.d were applicable only in 1982 (Reference: B. L. Siegel to J. M. Pilant, May 10, 1982, Amendment No. 79 to CNS Technical Specifications). Correct the wording (including the logical connector) in LCO 3.7.A.5.d to account for the removal of LCO 3.7.A.5.e and to retain original intent. There is no change to this specification's requirements.

Spell the word "inch" in LCO 3.7.A.4.c and add a missing comma in LCO 3.7.A.4.d.

180 Modify defined terms for correct usage and make all defined terms capitalized. Correct the abbreviations for the safety relief valve and main steam isolation valves to use standard abbreviations used in other portions of the Technical Specifications. Specify as "Group 6" the containment isolation that initiates the start of the Standby Gas Treatment fans. Move the first two paragraphs of Bases 3/4.7.C, Standby Gas Treatment System and Secondary Containment, to Page 181.

All Pages Capitalize (All CAPs) the defined terms.