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SUBJECT: Application for amends to licenses DPR-58 & DPR-74, modifying
 TS Tables 3.3-13 & 4.3-9 to allow portion of waste gas
 holdup sys explosive monitoring sys to be inoperable for 160
 days on one-time basis.

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AEP:NRC:0956G

Donald C. Cook Nuclear Plant Units 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
WASTE GAS HOLDUP MONITORING SYSTEM
TECHNICAL SPECIFICATION CHANGE REQUEST

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

Attn: T. E. Murley

November 17, 1993

Dear Dr. Murley:

This letter and its attachments constitute an application for amendment to the Technical Specifications (T/Ss) for the Donald C. Cook Nuclear Plant Units 1 and 2. Specifically, we would like to modify Tables 3.3-13 and 4.3-9 for both Units 1 and 2 which would allow a portion of the Waste Gas Holdup System Explosive Monitoring System to be inoperable for 160 days on a one-time basis. During this period, the Waste Gas Oxygen Analyzer will be replaced. The replacement of the oxygen monitor is currently scheduled to begin in the third quarter of 1994. Consequently, we would like to have an amendment by July of 1994. In addition, a few editorial changes are requested.

Attachment 1 provides a detailed description of the proposed changes, the justification for the changes, and our proposed determination of no significant hazards consideration performed pursuant to 10 CFR 50.92. Attachment 2 contains the existing T/S pages marked to reflect the proposed changes. Attachment 3 contains the proposed T/S pages.

We believe that the proposed changes will not result in (1) a significant change in the types of any effluent that may be released offsite, or (2) a significant increase in individual or cumulative occupational radiation exposure.

These proposed changes have been reviewed by the Plant Nuclear Safety Review Committee and the Nuclear Safety and Design Review Committee.

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Dr. T. E. Murley

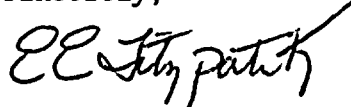
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AEP:NRC:0956G

In compliance with the requirements of 10 CFR 50.91(b)(1), copies of this letter and its attachments have been transmitted to the Michigan Public Service Commission and the Michigan Department of Public Health.

This letter is submitted pursuant to 10 CFR 50.30(b) and, as such, an oath statement is attached.

Sincerely,



E. E. Fitzpatrick
Vice President

dr

Attachments

cc: A. A. Blind
G. Charnoff
J. B. Martin - Region III
NFEM Section Chief
NRC Resident Inspector
J. R. Padgett

STATE OF OHIO)
COUNTY OF FRANKLIN)

E. E. Fitzpatrick, being duly sworn, deposes and says that he is the Vice President of licensee Indiana Michigan Power Company, that he has read the forgoing Waste Gas Holdup Monitoring System Modification and knows the contents thereof; and that said contents are true to the best of his knowledge and belief.

E. E. Fitzpatrick

Subscribed and sworn to before me this 17th
day of November, 19 93.

Diana L. Eads
NOTARY PUBLIC

DIANA L. EADS
Notary Public, State of Ohio
My commission expires 2-24-95

ATTACHMENT 1 TO AEP:NRC:0956G

10 CFR 50.92 ANALYSIS FOR CHANGES TO

THE DONALD C. COOK NUCLEAR PLANT

UNITS 1 and 2

TECHNICAL SPECIFICATIONS

1.0 Section to be Changed

A. Unit 1

1. T/S Table 3.3-13, pages 3/4 3-63 and 64
2. T/S Table 4.3-9, page 3/4 3-66

B. Unit 2

1. T/S Table 3.3-13, pages 3/4 3-59 and 60
2. T/S Table 4.3-9, page 3/4 3-62

2.0 Extent of Change

The license amendment request proposes a change to T/S 3.3.3.10, Tables 3.3-13 and 4.3-9 in both Units. The proposed change allows a portion of the Waste Gas Holdup System (WGHS) Explosive Monitoring System to be inoperable for 160 days on a one-time basis. During this period the Waste Gas Oxygen Analyzer will be replaced. The request also proposes a change to the Automatic Gas Analyzer tag number listed in Tables 3.3-13 and 4.3-9 in both units.

3.0 Specific Changes Requested

(The change numbers in the following discussion refer to those in Section 1.0 above.)

- A, B.1 The changes affect the Radioactive Gaseous Effluent Monitoring Instrumentation listed in Table 3.3-13 of T/S Section 3.3.3.10 in Units 1 and 2.

Replace the Automatic Gas Analyzer hydrogen and oxygen monitor tag number QC-31 with QC-1400.

Replace footnote number three (3), "The waste gas holdup system explosive gas monitoring system may be inoperable for up to 160 days on a one-time basis for the purpose of replacing one hydrogen and one oxygen monitor. During this time grab samples for both hydrogen and oxygen are to be taken and analyzed every 12 hours." with the following: "The waste gas holdup system explosive gas monitoring system may be inoperable for up to 160 days on a one-time basis for the purpose of replacing one oxygen monitor. During this time grab samples for oxygen are to be taken and analyzed every 12 hours.

- A, B.2 The change affects the Radioactive Gaseous Effluent Monitoring Instrumentation Surveillance Requirements listed in Table 4.3-9 of T/S Section 3.3.3.10 in

Units 1 and 2.

Replace the Automatic Gas Analyzer hydrogen and oxygen monitor tag number QC-31 with QC-1400.

The current four (4) asterisk footnote "These surveillances are not required during the 160 day period in which this monitor is being replaced" will now apply to this submittal request.

4.0 Discussion

System Description and Safety Functions

The Waste Gas Holdup System (WGHS) includes one hydrogen monitor and two oxygen monitors which are intended to ensure that concentrations of these gases are maintained below their explosive limits. An automatic gas analyzer (QC-31) is made up of the hydrogen monitor and one of the oxygen monitors and is provided to monitor the concentrations of oxygen and hydrogen in the cover gas of primary side tanks and vessels which might accumulate a hazardous mixture of the two gases. Upon indication of a high oxygen level, provisions are made to purge the equipment to the gaseous waste system with nitrogen gas. A waste gas oxygen analyzer (QC-370), which makes up the other oxygen monitor in the WGHS, is provided to monitor the concentration of oxygen in the discharge of the waste gas compressor. Upon indication of a "high-high" oxygen content (3%), the analyzer isolates the gas decay tank being filled and places the standby tank in operation. Provisions are made to purge the equipment with nitrogen gas. The waste gas oxygen analyzer (QC-370) is the monitor that will be taken out of service for 160 days for replacement.

The reason for the change is that the oxygen monitor (QC-370) has become a high maintenance piece of equipment and is based on obsolete technology. The replacement of this monitor is currently scheduled to begin in the third quarter of 1994 and is estimated to take no more than 160 days. Our T/S action statement for the oxygen monitors allows operation of the waste gas holdup system for 30 days with one of the two monitors inoperable with no compensatory requirement for obtaining grab samples (grab samples are only required if both monitors are inoperable). Since the oxygen monitor (QC-370) will be inoperable during the installation period and since the installation period is expected to exceed the out-of-service time specified in the T/S action statement, a T/S change is necessary to allow replacement of the monitor. We are therefore requesting that we be allowed to operate the waste gas holdup system with the oxygen (QC-370) monitor inoperable for up to 160 days, on a one-time basis, to allow

the replacement of this equipment. The equipment replacement activities are expected to last approximately 160 days. The new monitor is manufactured by the Oreisphere company and is more reliable. During this period, the automatic isolation of a waste gas decay tank with high oxygen content would be lost. This function would be performed manually during the inoperable period. To further compensate for the oxygen monitor's inoperability, twelve (12) hour grab samples of the WGHS oxygen will be collected and analyzed as an additional conservative measure.

Justification

While the oxygen monitor (QC-370) is inoperable, grab samples will be taken and analyzed every 12 hours. The grab sample testing is equivalent to the compensatory action required by the T/S but for an extended period of time. During the replacement, the hydrogen concentration will be assumed to be greater than the minimum flammable level (4%) in the WGHS. The limiting factor then is the oxygen concentration at which hydrogen and oxygen become flammable. If the oxygen concentration were to reach its upper limit setpoint (3%), plant personnel would be required to initiate a switching of the waste gas holdup tanks to prevent the oxygen level from reaching the point where it would ignite the hydrogen; therefore, as long as QC-31 remains operable, plant personnel will be alerted to oxygen levels increasing to the "high" level (2.5%) and "high-high" level (3%) and will be able to perform compensatory measures to continue the safe operation of the waste gas holdup system. Even though grab samples are not required by our current T/Ss when only one oxygen monitor is inoperable, we intend to collect oxygen grab samples during the replacement interval. If the remaining oxygen monitor were to become inoperable during the installation period, the actions specified in our current T/Ss would be followed (i.e. operation of the WGHS would be discontinued if the remaining oxygen monitor could not be repaired within the 30 day action period). We therefore believe that operation of the system in the proposed manner will be adequate to ensure safe operation of the WGHS while the oxygen monitor QC-370 is being replaced.

It is also requested that the tag number QC-31 (Automatic Gas Analyzer) be replaced with a QC-1400. The reason for this change in designation was to eliminate confusion of spare parts for the new analyzer panel. This tag number appears in T/S Section 3.3.3.10, Tables 3.3-13 and 4.3.9. This change is considered to be editorial.

5.0 No Significant Hazards Determination

We have evaluated the proposed T/S changes and have determined that the changes should involve no significant hazards consideration. Operation of the Cook Nuclear Plant in accordance with the proposed amendment will not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. The purpose of the hydrogen and oxygen monitors is to measure the concentrations of these gases in the WGHS to ensure that the gas mixture is non-flammable. We can accomplish this purpose and ensure safe operation of the WGHS by operating the system in the proposed manner. During the equipment replacement interval, we will be assuming that the hydrogen concentration is above the flammable limit (4%). The limiting factor then is the oxygen concentration at which hydrogen and oxygen become flammable. The existing hydrogen monitor will be in continuous operation to verify the hydrogen level. The information provided by the oxygen monitor being replaced is not essential to the safe operation of the WGHS since it is redundant to information provided by the remaining oxygen monitor. The only difference between the two (2) oxygen monitors is that the one being replaced provides an automatic isolation of the waste gas decay tank when the oxygen concentration reaches 3%. The isolation of the waste gas decay tanks will be performed manually during the replacement. In the event the remaining oxygen monitor becomes inoperable, we will follow the currently approved T/Ss. Since operation of the WGHS in the manner we have proposed will ensure that the purpose of the oxygen and hydrogen monitors is fulfilled and safe operation of the WGHS is maintained, the proposed change will not involve a significant increase in the probability or consequences of a previously analyzed incident.

The proposed change to the Automatic Gas Analyzer (QC-31) tag number to QC-1400 will not reduce in any way requirements or commitments in the existing T/Ss. The proposed change will eliminate confusion of spare parts of the new analyzer panel installed in 1990.

- (2) Create the possibility of a new or different kind of accident from any previously analyzed.

The proposed amendment does not create the possibility of a new or different kind of accident from any previously evaluated. During the replacement of the monitors the waste gas holdup system will continue to operate normally. The proposed method of operation will ensure that the oxygen and hydrogen gas mixture is non-flammable. For this reason, operating the explosive gas monitoring system in the proposed manner will not place the plant in a new or unanalyzed condition. Therefore, we believe that this change will not introduce a new or different kind of accident than previously analyzed.

The proposed editorial change will not create the possibility of a new or different kind of accident from any previously evaluated, because these changes will not place the plant in a new or unanalyzed condition.

- (3) Involve a significant reduction in a margin of safety.

The proposed amendment does not involve a significant reduction in the margin of safety. The remaining oxygen monitor will be available to maintain the oxygen concentration below the limit required for hydrogen flammability in oxygen. In addition, the oxygen grab samples will provide redundant information and will serve as a check of the monitor's readings. If the remaining monitor becomes inoperable, we will follow the actions of our current T/Ss. During the equipment replacement period, we will be assuming that the hydrogen concentration is above the flammable limit (4%). This will then make the oxygen level the controlling parameter in a possible flammable combination of oxygen and hydrogen. The existing hydrogen monitor will be in continuous operation to verify the hydrogen level. These proposed interim measures will not significantly affect our ability to maintain the hydrogen and oxygen concentration within the limits to prevent flammability. Therefore, we believe that operation of the system in this manner does not involve a significant reduction in a margin of safety.

The proposed editorial change will not involve a significant reduction in margin of safety, because all accident analyses and nuclear design bases remain unchanged.

Lastly, we note that the Commission has provided guidance concerning the determination of significant hazards by providing certain examples (48 FR 14870) of amendments considered not likely to involve significant hazards consideration. The sixth of these examples refers to changes which may result in some increase to the probability of occurrence of consequences of a previously analyzed accident, but where the results are clearly within limits established as acceptable. As discussed above, these changes relax requirements related to operation of the waste gas holdup system but maintain the integrity of the system through adherence to the approved compensatory actions. Thus, we conclude that the example cited is applicable and that the changes do not involve a significant hazards considerations as defined by 10 CFR 50.92.