



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 29, 2015

Mr. Oscar A. Limpias
Vice President-Nuclear and CNO
Nebraska Public Power District
72676 648A Avenue
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION - ISSUANCE OF AMENDMENT TO ELIMINATE
REQUIREMENTS FOR POST ACCIDENT SAMPLING SYSTEM USING THE
CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS (TAC NO. MF4452)

Dear Mr. Limpias:

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has issued the enclosed Amendment No. 250 to Renewed Facility Operating License No. DPR-46 for the Cooper Nuclear Station. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated July 14, 2014.

The amendment deletes the program requirements of TS 5.5.3, "Post Accident Sampling." The changes are consistent with NRC-approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-413, "Elimination of Requirements for a Post Accident Sampling System (PASS)." The availability of this TS improvement was announced in the *Federal Register* on March 20, 2002 (67 FR 13027), as part of the consolidated line item improvement process.

A copy of our related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in cursive script, reading "Siva P. Lingam", is positioned above the typed name.

Siva P. Lingam, Project Manager
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosures:

1. Amendment No. 250 to DPR-46
2. Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

NEBRASKA PUBLIC POWER DISTRICT

DOCKET NO. 50-298

COOPER NUCLEAR STATION

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 250
License No. DPR-46

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Nebraska Public Power District (the licensee), dated July 14, 2014, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

Enclosure 1

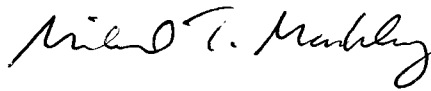
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and Paragraph 2.C.(2) of Renewed Facility Operating License No. DPR-46 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 250, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. The license amendment is effective as of its date of issuance and shall be implemented within 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Michael T. Markley, Chief
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility
Operating License No. DPR-46
and Technical Specifications

Date of Issuance: May 29, 2015

ATTACHMENT TO LICENSE AMENDMENT NO. 250

RENEWED FACILITY OPERATING LICENSE NO. DPR-46

DOCKET NO. 50-298

Replace the following pages of the Renewed Facility Operating License No. DPR-46 and Appendix A Technical Specifications with the enclosed revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Renewed Facility Operating License

REMOVE

INSERT

-3-

-3-

Technical Specifications

REMOVE

INSERT

5.0-7

5.0-7

- (5) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by operation of the facility.
- C. This license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 2419 megawatts (thermal).

(2) Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 250, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Physical Protection

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Cooper Nuclear Station Safeguards Plan," submitted by letter dated May 17, 2006.

NPPD shall fully implement and maintain in effect all provisions of the Commission-approved cyber security plan (CSP), including changes made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The NPPD CSP was approved by License Amendment No. 238 as supplemented by changes approved by License Amendments 244 and 249.

(4) Fire Protection

NPPD shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the license amendment request dated April 24, 2012 (and supplements dated July 12, 2012, January 14, 2013, February 12, 2013, March 13, 2013, June 13, 2013, December 12, 2013, January 17, 2014, February 18, 2014, and April 11, 2014), and as approved in the safety evaluation dated April 29, 2014. Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition or requirement would require prior NRC approval, the licensee may make changes to the fire protection program without prior approval of the Commission if

5.5 Programs and Manuals

5.5.1 Offsite Dose Assessment Manual (ODAM) (continued)

markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (i.e., month and year) the change was implemented.

5.5.2 Systems Integrity Monitoring Program

This program provides controls to minimize leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to levels as low as practicable. The systems include the Core Spray, High Pressure Coolant Injection, Residual Heat Removal, and Reactor Core Isolation Cooling. The program shall include the following:

- a. Preventive maintenance and periodic visual inspection requirements; and
- b. Integrated leak test requirements for each system at 24 month intervals or less.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable at the 24 month Frequency for performing system leak test activities.

5.5.3 (Deleted)

(continued)



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 250 TO

RENEWED FACILITY OPERATING LICENSE NO. DPR-46

NEBRASKA PUBLIC POWER DISTRICT

COOPER NUCLEAR STATION

DOCKET NO. 50-298

1.0 INTRODUCTION

By application dated July 14, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14202A205), Nebraska Public Power District (NPPD, the licensee), requested changes to the Technical Specifications (TSs) for Cooper Nuclear Station (CNS).

The proposed changes would delete the program requirements of TS 5.5.3, "Post Accident Sampling." The changes are consistent with U.S. Nuclear Regulatory Commission (NRC)-approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-413, "Elimination of Requirements for a Post Accident Sampling System (PASS)." The availability of this TS improvement was announced in the *Federal Register* on March 20, 2002 (67 FR 13027), as part of the consolidated line item improvement process (CLIIP).

2.0 REGULATORY EVALUATION

In the aftermath of the accident at Three Mile Island (TMI), Unit 2, the NRC imposed requirements on licensees for commercial nuclear power plants to install and maintain the capability to obtain and analyze post-accident samples of the reactor coolant and containment atmosphere. The desired capabilities of the PASS were described in NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980 (ADAMS Accession No. ML051400209). The NRC issued orders to licensees with plants operating at the time of the TMI accident to confirm the installation of PASS capabilities (generally as they had been described in NUREG-0737). A requirement for PASS and related administrative controls was added to the TSs of the operating plants and was included in the initial TSs for plants licensed during the 1980s and 1990s. NRC Regulatory Guide 1.97, "Criteria for Accident Monitoring Instrumentation for Nuclear Power Plants," included additional expectations regarding PASS.

Significant improvements have been achieved since the TMI accident in the areas of understanding risks associated with nuclear plant operations and developing better strategies for managing the response to potentially severe accidents at nuclear plants. Recent insights

about plant risks and alternate severe accident assessment tools have led the NRC staff to conclude that some TMI Action Plan items can be revised without reducing the ability of licensees to respond to severe accidents. The NRC's efforts to oversee the risks associated with nuclear technology more effectively and to eliminate undue regulatory costs to licensees and the public have prompted the NRC to consider eliminating the requirements for PASS in TSs and other parts of the licensing bases of operating reactors.

In its letter dated November 30, 2000, Boiling Water Reactor (BWR) Owners Group (BWROG) submitted for the NRC staff's review Topical Report NEDO-32991, "Regulatory Relaxation for BWR Post Accident Sampling Stations (PASS)," for eliminating PASS requirements from BWRs. The BWROG proposed that relaxation of the PASS requirements be incorporated into the standard TSs by submitting TSTF-413. The NRC staff has completed its review of the topical report submitted by the BWROG that proposed to eliminate PASS. The NRC staff's safety evaluation (SE) for the BWROG topical report is dated June 12, 2001 (ADAMS Accession No. ML011630016). The justifications for the proposed elimination of PASS requirements center on evaluations of the various radiological and chemical sampling and their potential usefulness in responding to a severe reactor accident or making decisions regarding actions to protect the public from possible releases of radioactive materials. As explained in more detail in the staff's SE for the topical report, the staff reviewed the available sources of information for use by decision makers in developing protective action recommendations and assessing core damage. Based on this review, the staff found that the information provided by PASS is either unnecessary or is effectively provided by other indications of process parameters or measurement of radiation levels. The staff concluded that licensees can apply to remove the TS requirements for PASS, revise (as necessary) other elements of the licensing bases, and pursue possible design changes to alter or remove existing PASS equipment.

The NRC staff prepared model SE relating to the elimination of requirements on post accident sampling for BWRs and solicited public comment (66 FR 66949, dated December 27, 2001) in accordance with the CLIIP. The use of the CLIIP in this matter is intended to help the NRC to efficiently process amendments that propose to remove the PASS requirements from TSs. Licensees of nuclear power reactors to which this SE apply were informed (67 FR 13027, dated March 20, 2002) that they could request amendments conforming to the SE. In addition, such requests should confirm the applicability of the SE to their reactors and provide the requested plant-specific verifications and commitments.

The following NRC requirements are applicable to the NRC staff's review of the July 14, 2014, license amendment request regarding CNS:

The regulation at Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.36, "Technical specifications," establishes the requirements related to the content of the TSs. Pursuant to 10 CFR 50.36(c) TSs are required to include items in five specific categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings, (2) limiting conditions for operation, (3) surveillance requirements, (4) design features; and (5) administrative controls. The proposed changes to the CNS TSs relate to the administrative controls category.

Section 10 CFR 50.54(q), "Emergency plans," requires each licensee to evaluate possible changes to its emergency plan (EP) to determine if the change decreases the effectiveness of

its site-specific plan. Evaluations and reporting of changes to EPs should be performed in accordance with applicable regulations and procedures.

Section 10 CFR 50.44, "Combustible gas control for nuclear power reactors," requires the use of containment hydrogen concentration monitors and are relied upon to meet the data reporting requirements of 10 CFR Part 50, Appendix E, Section VI.3.a(ii)(3), "Maintaining Emergency Response Data System."

3.0 TECHNICAL EVALUATION

3.1 Proposed TS Change

Current TS 5.5.3 states:

5.5.3 Post Accident Sampling

This program provides controls that ensure the capability to obtain and analyze reactor coolant, radioactive gases, and particulates in plant gaseous effluents and containment atmosphere samples under accident conditions. The program shall include the following:

- a. Training of personnel;
- b. Procedures for sampling and analysis; and
- c. Provisions for maintenance of sampling and analysis equipment.

Revised TS 5.5.3 would state:

5.5.3 (Deleted)

3.2 NRC Staff Evaluation

The ways in which the requirements and recommendations for PASS were incorporated into the current licensing basis of commercial nuclear power plants varied as a function of when the plants were licensed. Plants that were operating at the time of the TMI accident are likely to have been the subject of confirmatory orders that imposed the PASS functions described in NUREG-0737 as obligations. The issuance of plant-specific amendments to adopt this change, which would remove PASS and related administrative controls from the TSs, would also supersede the PASS-specific requirements imposed by post-TMI confirmatory orders.

The technical evaluations for the elimination of PASS sampling requirements are provided in the NRC staff's SE dated June 12, 2001, for BWROG Topical Report NEDO-32991. As described in its SE for the topical report, the staff finds that the post-accident sampling requirements for the following may be eliminated for BWR plants:

- reactor coolant dissolved gases
- reactor coolant hydrogen

- reactor coolant oxygen
- reactor coolant chlorides
- reactor coolant pH
- reactor coolant boron
- reactor coolant conductivity
- radioisotopes in the reactor coolant
- containment hydrogen
- containment oxygen
- radioisotopes in the containment atmosphere
- suppression pool pH
- chlorides in the suppression pool
- boron in the suppression pool
- radioisotopes in the suppression pool

The NRC staff concludes that the sampling of radioisotopes is not required to support emergency response decision-making during the initial phases of an accident because the information provided by PASS is either unnecessary or is provided effectively by other indications of process parameters or measurement of radiation levels. Therefore, it is not necessary to have dedicated equipment to obtain this sample in a prompt manner. Based on the above, the NRC staff concludes that the proposed deletion of the CNS TS 5.5.3 is acceptable.

The NRC staff does, however, note that there could be significant benefits to having information about the radioisotopes existing post-accident in order to address public concerns and plan for long-term recovery operations. As stated in the SE for the topical report, the staff determined that licensees could satisfy this function by developing contingency plans to describe existing sampling capabilities and what actions (e.g., assembling temporary shielding) may be necessary to obtain and analyze highly radioactive samples from the reactor coolant system (RCS), suppression pool, and containment atmosphere (see Regulatory Commitments in Section 4.0 of this SE). The contingency plans for obtaining samples from the RCS, suppression pool, and containment atmosphere may also enable a licensee to derive information on parameters such as hydrogen concentrations in containment and the pH of water in the suppression pool. The staff considers the sampling of the suppression pool to be potentially useful in confirming calculations of pH and confirming that potentially unaccounted for acid sources have been sufficiently neutralized. The use of the contingency plans for obtaining samples would depend on the plant conditions and the need for information by the decision-makers responsible for responding to the accident.

In addition, the NRC staff considers radioisotope sampling information to be useful in classifying certain types of events (such as a reactivity excursion or mechanical damage) that could cause fuel damage without having an indication of a loss of reactor coolant inventory. However, the staff concludes that the topical report's statements that other indicators of failed fuel, such as radiation monitors, can be correlated to the degree of failed fuel (see Regulatory Commitments in Section 4.0 of this SE) are reasonable.

In lieu of the information that would have been obtained from PASS, the NRC staff concludes that licensees should maintain or develop the capability to monitor radioactive iodines that have been released to offsite environs. This information would be useful for decision-makers trying to

assess a release of and limit the public's exposure to radioactive materials (see Regulatory Commitments in Section 4.0 of this SE).

The NRC staff expects that the changes related to the elimination of PASS that are described in the topical report, the related SE, and this proposed change to the CNS TSs are unlikely to result in a decrease in the effectiveness of a licensee's EP. Each licensee must, however, evaluate possible changes to its EP in accordance with 10 CFR 50.54(q) to determine if the change decreases the effectiveness of its site-specific plan. Evaluations and reporting of changes to EPs should be performed in accordance with applicable regulations and procedures.

Containment hydrogen concentration monitors are required by 10 CFR 50.44 and are relied upon to meet the data reporting requirements of 10 CFR Part 50, Appendix E, Section VI.2.a.(ii)(3). The staff concludes that these hydrogen monitors provide an adequate capability for monitoring containment hydrogen concentration during the early phases of an accident. The staff sees value in maintaining the capability to obtain grab samples for complementing the information from the hydrogen monitors in the long term (i.e., by confirming the indications from the monitors and providing hydrogen measurements for concentrations outside the range of the monitors). As previously mentioned, the licensee's contingency plan (see Regulatory Commitments in Section 4.0 of this SE) for obtaining highly radioactive samples will include sampling of the containment atmosphere and may, if deemed necessary and practical by the appropriate decision-makers, be used to supplement the hydrogen monitors.

4.0 REGULATORY COMMITMENTS

In its letter dated July 14, 2014, and in accordance with the notice of availability for this TS improvement, the licensee made the following plant-specific regulatory commitments:

Commitment No. NLS2014035-01

NPPD has contingency plans for obtaining and analyzing highly radioactive samples from the reactor coolant system, suppression pool, and containment atmosphere. NPPD will maintain the capability in CNS Chemistry Department procedures.

Commitment No. NLS2014035-02

NPPD has established the capability for classifying fuel damage events at the Alert level threshold for CNS at radioactivity levels of 300 $\mu\text{Ci/cc}$ [microcuries per cubic centimeter] dose equivalent iodine. This capability is described in the Emergency Plan Implementation Procedure for performing dose projection.

Commitment No. NLS2014035-03

NPPD has a I-131 site survey detection capability, including an ability to assess radioactive iodines released to offsite environs, by using effluent monitoring systems or portable sampling equipment. The capability for monitoring iodines will be maintained in the Emergency Plan Implementing Procedures for manually

determining airborne release rates and for onsite and offsite boundary monitoring.

The licensee has stated in its letter dated July 14, 2014, that implementation of the regulatory commitments stated above is complete.

The NRC staff approval is not based on the above regulatory commitments. The NRC staff will follow-up on these actions during future audits of the licensee's commitment management program. The NRC staff concludes that Nuclear Energy Institute (NEI) 99-04, Revision 0, "Guidelines for Managing NRC Commitment Changes," July 1999 (ADAMS Accession No. ML003680088), provides reasonable guidance for the control of regulatory commitments made to the NRC staff (see Regulatory Issue Summary 2000-17, Managing Regulatory Commitments Made by Power Reactor Licensees to the NRC Staff, dated September 21, 2000; ADAMS Accession No. ML003741774).

The NRC staff concludes that the sampling of radioisotopes is not required to support emergency response decision-making during the initial phases of an accident because the information provided by PASS is either unnecessary or is effectively provided by other indications of process parameters or measurement of radiation levels. Because it is not necessary to have dedicated equipment to obtain this sample in a prompt manner, the NRC staff concludes that the deletion of the program requirements of TS 5.5.3, "Post Accident Sampling," is acceptable.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Nebraska State official was notified of the proposed issuance of the amendment. The State official had no comments.

6.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding published in the *Federal Register* on September 30, 2014 (79 FR 58819). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

7.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: K. West, NRR

Date: May 29, 2015

May 29, 2015

Mr. Oscar A. Limpias
Vice President-Nuclear and CNO
Nebraska Public Power District
72676 648A Avenue
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION - ISSUANCE OF AMENDMENT TO ELIMINATE REQUIREMENTS FOR POST ACCIDENT SAMPLING SYSTEM USING THE CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS (TAC NO. MF4452)

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Sincerely,

/RA/

Siva P. Lingam, Project Manager
Plant Licensing Branch IV-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosures:

1. Amendment No. 250 to DPR-46
2. Safety Evaluation

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ADAMS Accession No. ML15135A005

*via memo

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DATE	5/27/15	5/29/15	5/29/15

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