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

December 19, 2017

Mr. Joel P. Gebbie
Senior Vice President and
Chief Nuclear Officer
Indiana Michigan Power Company
Nuclear Generation Group
One Cook Place
Bridgman, MI 49106

SUBJECT: DONALD C. COOK NUCLEAR PLANT, UNIT NOS. 1 AND 2 – ISSUANCE OF AMENDMENTS RE: LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATIONS SECTION 3.7.2, "STEAM GENERATOR STOP VALVES (SGSVS)" (CAC NOS. MF9539 AND MF9540; EPID: L-2017-LLA-0198)

Dear Mr. Gebbie:

The U.S. Nuclear Regulatory Commission (Commission) has issued the enclosed Amendment No. 338 to Renewed Facility Operating License No. DPR-58 and Amendment No. 320 to Renewed Facility Operating License No. DPR-74 for the Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2, respectively. The amendments consist of changes to the technical specifications (TSs) in response to your application dated March 24, 2017.

The amendments revise TS Section 3.7.2, "Steam Generator Stop Valves (SGSVs)," to incorporate the SGSV actuator trains into the Limiting Condition for Operation statement and to provide associated Conditions, Required Actions, and Completion Times to the ACTIONS table. In addition, surveillance requirement (SR) 3.7.2.2 is revised to clearly identify that the SGSV actuator trains are required to be tested in accordance with the SR.

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

Sincerely,

Jennivine Rankin, Project Manager
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-315 and 50-316

Enclosures:
1. Amendment No. 338 to DPR-58
2. Amendment No. 320 to DPR-74
3. Safety Evaluation

cc w/encls: Distribution via ListServ

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

INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-315

DONALD C. COOK NUCLEAR PLANT, UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 338
License No. DPR-58

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Indiana Michigan Power Company (the licensee) dated March 24, 2017, 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 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.

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-58 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 338, are hereby incorporated in this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION

David J. Wrona, Chief
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to Renewed
Facility Operating License No. DPR-58
and Technical Specifications

Date of Issuance: December 19, 2017

ATTACHMENT TO LICENSE AMENDMENT NO. 338

DONALD C. COOK NUCLEAR PLANT, UNIT NO. 1

RENEWED FACILITY OPERATING LICENSE NO. DPR-58

DOCKET NO. 50-315

Replace the following page of the Renewed Facility Operating License No. DPR-58 with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

REMOVE	INSERT
3	3

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE	INSERT
3.7.2-1	3.7.2-1
3.7.2-2	3.7.2-2
---	3.7.2-3

and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

(4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument and equipment calibration or associated with radioactive apparatus or components; and

(5) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed operating 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; and 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 to exceed 3304 megawatts thermal in accordance with the conditions specified herein.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 338, are hereby incorporated in this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Less than Four Loop Operation

The licensee shall not operate the reactor at power levels above P-7 (as defined in Table 3.3.1-1 of Specification 3.3.1 of Appendix A to this renewed operating license) with less than four reactor coolant loops in operation until (a) safety analyses for less than four loop operation have been submitted, and (b) approval for less than four loop operation at power levels above P-7 has been granted by the Commission by amendment of this license.

(4) Fire Protection Program

Indiana Michigan Power Company 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 licensee's amendment request dated July 1, 2011, as supplemented by letters dated September 2, 2011, April 27, 2012, June 29, 2012, August 9, 2012, October 15, 2012, November 9, 2012, January 14, 2013, February 1, 2013,

3.7 PLANT SYSTEMS

3.7.2 Steam Generator Stop Valves (SGSVs)

LCO 3.7.2 Four SGSVs and their associated actuator trains shall be OPERABLE.

APPLICABILITY: MODE 1,
MODES 2 and 3 except when all SGSVs are closed.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One SGSV actuator train inoperable.	A.1	Restore SGSV actuator train to OPERABLE status.	7 days
B. Two SGSVs each with one actuator train inoperable such that the inoperable actuator trains are in different ESF Divisions.	B.1	Restore one SGSV actuator train to OPERABLE status.	72 hours
C. Two SGSVs each with one actuator train inoperable and both inoperable actuator trains are in the same ESF Division.	C.1	Restore one SGSV actuator train to OPERABLE status.	24 hours
D. Two SGSV actuator trains inoperable on the same SGSV.	D.1	Declare the affected SGSV inoperable.	Immediately

(continued)

ACTIONS (cont'd)

CONDITION	REQUIRED ACTION		COMPLETION TIME
E. Three or more SGSV actuator trains inoperable. OR Required Action and associated Completion Time of Condition A, B, or C not met.	E.1	Declare each affected SGSV inoperable.	Immediately
F. One SGSV inoperable in MODE 1.	F.1	Restore SGSV to OPERABLE status.	8 hours
G. Required Action and associated Completion Time of Condition F not met.	G.1	Be in MODE 2.	6 hours
H. ----------NOTE---------- Separate Condition entry is allowed for each SGSV. ---------- One or more SGSVs inoperable in MODE 2 or 3.	H.1 AND H.2	Close SGSV. Verify SGSV is closed.	8 hours Once per 7 days
I. Required Action and associated Completion Time of Condition H not met.	I.1 AND I.2	Be in MODE 3. Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.2.1	----------NOTE---------- Only required to be performed in MODES 1 and 2. ---------- Verify the isolation time of each SGSV is within limits.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.7.2.2	----------NOTE---------- Only required to be performed in MODES 1 and 2. ---------- Verify each actuator train actuates the SGSV to the isolation position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program

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

INDIANA MICHIGAN POWER COMPANY

DOCKET NO. 50-316

DONALD C. COOK NUCLEAR PLANT, UNIT NO. 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 320
License No. DPR-74

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Indiana Michigan Power Company (the licensee) dated March 24, 2017, 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 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.

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-74 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 320, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 90 days.

FOR THE NUCLEAR REGULATORY COMMISSION

David J. Wrona, Chief
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to Renewed
Facility Operating License No. DPR-74
and Technical Specifications

Date of Issuance: December 19, 2017

ATTACHMENT TO LICENSE AMENDMENT NO. 320

DONALD C. COOK NUCLEAR PLANT, UNIT NO. 2

RENEWED FACILITY OPERATING LICENSE NO. DPR-74

DOCKET NO. 50-316

Replace the following page of the Renewed Facility Operating License No. DPR-74 with the attached revised page. The revised page is identified by amendment number and contains a marginal line indicating the area of change.

REMOVE	INSERT
3	3

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE	INSERT
3.7.2-1	3.7.2-1
3.7.2-2	3.7.2-2
---	3.7.2-3

radiation monitoring equipment calibration, and as fission detectors in amounts as required;

(4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument and equipment calibration or associated with radioactive apparatus or components; and

(5) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed operating 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; and 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 to exceed 3468 megawatts thermal in accordance with the conditions specified herein and in Attachment 1 to the renewed operating license. The preoperational tests, startup tests and other items identified in Attachment 1 to this renewed operating license shall be completed. Attachment 1 is an integral part of this renewed operating license.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 320, are hereby incorporated into this license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Additional Conditions

(a) Deleted by Amendment No. 76

(b) Deleted by Amendment No. 2

(c) Leak Testing of Emergency Core Cooling System Valves

Indiana Michigan Power Company shall prior to completion of the first inservice testing interval leak test each of the two valves in series in the

3.7 PLANT SYSTEMS

3.7.2 Steam Generator Stop Valves (SGSVs)

LCO 3.7.2 Four SGSVs and their associated actuator trains shall be OPERABLE.

APPLICABILITY: MODE 1,
MODES 2 and 3 except when all SGSVs are closed.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One SGSV actuator train inoperable.	A.1	Restore SGSV actuator train to OPERABLE status.	7 days
B. Two SGSVs each with one actuator train inoperable such that the inoperable actuator trains are in different ESF Divisions.	B.1	Restore one SGSV actuator train to OPERABLE status.	72 hours
C. Two SGSVs each with one actuator train inoperable and both inoperable actuator trains are in the same ESF Division.	C.1	Restore one SGSV actuator train to OPERABLE status.	24 hours
D. Two SGSV actuator trains inoperable on the same SGSV.	D.1	Declare the affected SGSV inoperable.	Immediately

(continued)

ACTIONS (cont'd)

E. Three or more SGSV actuator trains inoperable. OR Required Action and associated Completion Time of Condition A, B or C not met.	E.1	Declare each affected SGSV inoperable.	Immediately
F. One SGSV inoperable in MODE 1.	F.1	Restore SGSV to OPERABLE status.	8 hours
G. Required Action and associated Completion Time of Condition F not met.	G.1	Be in MODE 2.	6 hours
H. ----------NOTE---------- Separate Condition entry is allowed for each SGSV. ---------- One or more SGSVs inoperable in MODE 2 or 3.	H.1 AND H.2	Close SGSV. Verify SGSV is closed.	8 hours Once per 7 days
I. Required Action and associated Completion Time of Condition H not met.	I.1 AND I.2	Be in MODE 3. Be in MODE 4.	6 hours 12 hours

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.7.2.1	----------NOTE---------- Only required to be performed in MODES 1 and 2. ---------- Verify the isolation time of each SGSV is within limits.	In accordance with the INSERVICE TESTING PROGRAM
SR 3.7.2.2	----------NOTE---------- Only required to be performed in MODES 1 and 2. ---------- Verify each actuator train actuates the SGSV to the isolation position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO

AMENDMENT NO. 338 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-58

AND

AMENDMENT NO. 320 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-74

INDIANA MICHIGAN POWER COMPANY

DONALD C. COOK NUCLEAR PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-315 AND 50-316

1.0 INTRODUCTION

By application dated March 24, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17087A012), Indiana Michigan Power Company (the licensee) requested license amendments for the Donald C. Cook Nuclear Plant (CNP), Unit Nos. 1 and 2. The licensee requested to revise technical specification (TS) 3.7.2, "Steam Generator Stop Valves (SGSVs)," to incorporate the SGSV actuator trains into the limiting condition for operation (LCO) statement and to add new Conditions, Required Actions, and completion times (CTs) to the ACTIONS table. In addition, surveillance requirement (SR) 3.7.2.2 would be revised to clearly identify that the SGSV actuator trains are required to be tested in accordance with the SR. The existing Conditions, Required Actions, and CTs in TS 3.7.2 would be renumbered to account for the proposed new Conditions, Required Actions, and CTs.

2.0 REGULATORY EVALUATION

2.1 System Description

By letter dated March 24, 2017, the licensee described the SGSVs as follows:

> The SGSVs isolate steam flow from the secondary side of the steam generators following a steam line isolation signal. One SGSV is installed in each of the main steam lines outside the containment and downstream of the main steam safety valves. The SGSVs prevent uncontrolled blowdown from more than one steam generator in the event of a postulated design basis accident. Each SGSV is a gate valve with a double gate design that is normally hydraulically operated. As described in the Updated Final Safety Analysis (UFSAR), the valve is designed to close in less than 11 seconds based on the limiting accident of a steam line

break outside the containment to limit cool down rate of the reactor coolant system.

Each SGSV is equipped with two redundant air operated actuator trains such that either actuator train can independently perform the safety function to fast-close the valve on demand. The SGSVs are interlocked with the ESF [engineered safety features] system to auto close on the following main steam line isolation signals: Containment Pressure - High High signal, High Steam Flow in Two Steam Lines Coincident with T_{avg} - Low Low, and Steam Line Pressure - Low. In addition, emergency closure can be initiated by operator actuation of the dump valves in the SGSV Control System. The SGSVs fail closed on loss of control air and fail as-is on loss of DC [direct current] control power.

2.2 Regulatory Requirements

In Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36, "Technical specifications," the U.S. Nuclear Regulatory Commission (NRC) established its regulatory requirements related to the content of TSs.

Section 50.36(a)(1) to 10 CFR requires each applicant for a license to include a summary statement of the bases or reasons for proposed TSs; however, the bases shall not become part of the TSs.

Pursuant to 10 CFR 50.36(c), TSs are required to include items in the following categories related to plant operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) LCOs; (3) SRs; (4) design features; and (5) administrative controls. However, the regulation does not specify the particular requirements to be included in a plant's TSs.

Section 50.36(c)(2) to 10 CFR states that LCOs are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When an LCO of a nuclear reactor is not met, the licensee shall follow any remedial actions permitted by the TS until the condition can be met or shall shut down the reactor.

Section 50.36(c)(3) to 10 CFR states that SRs are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met.

2.3 Regulatory Guidance

In determining the acceptability of revising CNP TS 3.7.2, the NRC staff considered plant-specific licensing basis information as well as the accumulation of generically approved guidance in NUREG-1431, "Standard Technical Specifications [STS] Westinghouse Plants Revision 4.0," Volume 1 and Volume 2, dated April 2012 (ADAMS Accession Nos. ML12100A222 and ML12100A228, respectively).

The single-failure criterion for nuclear power plants is the requirement for safety-related structures, systems, and components (SSCs) used to mitigate abnormal operational occurrences and design basis accidents (DBAs) to have sufficient redundancy in components and features such that the safety function(s) for any such SSC can be accomplished assuming any single failure. Plants are designed and licensed to meet the single-failure criterion. Plants are normally operated with the requirement that the single-failure criterion is being met, in that

the TSs contain LCOs that require all necessary SSCs, which meet the four criteria in 10 CFR 50.36(c)(2)(ii), to be operable.

Plant TSs are formulated to preserve the single-failure criterion for SSCs described in the UFSAR that are relied upon in the DBA analyses. The single-failure criterion is preserved by specifying LCOs that require all redundant components of safety-related systems to be operable. When the required redundancy is not maintained, either due to equipment failure or a maintenance outage, the TSs require plant shutdown or a remedial action to be taken within a CT, which is a temporary relaxation of the single-failure criterion. The specified CT provides a limited time, consistent with overall system reliability and risk considerations, to fix the equipment or otherwise make it operable.

3.0 TECHNICAL EVALUATION

3.1 Licensee Request

The licensee proposed adding the SGSV actuator trains to the LCO 3.7.2 statement as well as adding new Conditions, Required Actions, and CTs to the ACTIONS table to provide remedial actions related to SGSV actuation train inoperabilities. The licensee also proposed changes to SR 3.7.2.2 to clearly identify that the SGSV actuator trains are required to be tested in accordance with the SR.

The licensee stated that the existing CT of 8 hours for an inoperable SGSV due to one inoperable actuator train is not commensurate with the safety significance of the condition. Therefore, the licensee proposed to incorporate requirements specifically for the SGSV actuator trains within TS 3.7.2 such that the TS would include Conditions, Required Actions, and CTs to address inoperable SGSV actuator trains.

3.2 Evaluation of Proposed Changes

The licensee provided a discussion related to its use of probabilistic risk analysis (PRA) in assessing the CTs for the proposed new Required Actions. The licensee stated that the conclusion of the PRA evaluation was that the CTs for inoperable SGSV actuator trains were acceptable. The NRC staff did not use the PRA information to make a determination on the acceptability of the proposed CT. Rather, the NRC staff assessed the licensee's non-PRA justifications for the proposed Conditions, Required Actions, and CTs, as discussed below.

3.2.1 LCO 3.7.2 Changes

Current LCO 3.7.2 states, "Four SGSVs shall be OPERABLE."

Revised LCO 3.7.2 would state, "Four SGSVs and their associated actuator trains shall be OPERABLE."

Evaluation of LCO 3.7.2 Changes

The revised LCO would specifically identify the SGSV actuator trains as equipment required to be OPERABLE for the safe operation of the facility. The SGSV actuator trains are required to close the SGSVs when needed. Based on the SGSV actuator train function to close the SGSVs, the NRC staff determined that 10 CFR 50.36(c)(2), "Limiting conditions for operation" is met for the proposed change.

3.2.2 TS 3.7.2; New Condition A

The licensee proposed to add a new Condition A, and associated Required Action and CT, as follows:

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SGSV actuator train inoperable.	A.1 Restore SGSV actuator train to OPERABLE status.	7 days

Evaluation of TS 3.7.2; New Condition A

The licensee stated the following regarding the purpose and justification of new Condition A:

> New Condition A would address the condition of having one SGSV actuator train inoperable (for a single valve). The proposed Required Action for this Condition would require restoring the inoperable actuator train to OPERABLE status within 7 days.
>
> ...
>
> With only a single actuator train inoperable on one SGSV, a Completion Time of 7 days for Required Action A.1 is reasonable due to the fact that with one actuator train inoperable and the dual-redundant actuator design, the affected valve would still be capable of closing on demand (assuming no additional failures) via the remaining OPERABLE actuator train. The proposed 7 day Completion Time takes into account the design redundancy, reasonable time for repairs, and the low probability of a design basis accident occurring during this period.

The NRC staff determined that Condition A meets 10 CFR 50.36(c)(2) based on the evaluation of the revised text for LCO 3.7.2, above. The NRC staff determined that the Required Action is acceptable because it directly corrects the Condition. The NRC staff determined that the CT of 7 days is acceptable because it is consistent with NUREG-1431, which provides similar CTs for similar LCOs that involve redundant equipment such as the 7-day CT for one of two inoperable steam supplies to the turbine driven auxiliary feedwater pump.

3.2.3 TS 3.7.2; New Condition B

The licensee proposed to add a new Condition B, and associated Required Action and CT, as follows:

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Two SGSVs each with one actuator train inoperable such that the inoperable actuator trains are in different ESF Divisions.	B.1 Restore one SGSV actuator train to OPERABLE status.	72 hours

Evaluation of TS 3.7.2; New Condition B

The licensee stated the following regarding the purpose and justification of new Condition B:

> New Condition B would address the condition of having two SGSV actuator trains inoperable for different valves (i.e., one actuator train inoperable for each of two SGSVs) such that the actuator trains are not in the same [ESF] Train. The proposed Required Action for this Condition would require restoring at least one actuator train to OPERABLE status within 72 hours.
>
> ...
>
> With one inoperable actuator train on one SGSV and one inoperable actuator train on another SGSV, such that the actuator trains are not in the same ESF Train, a Completion Time of 72 hours for Required Action B.1 is reasonable. This is based on the dual-redundant actuator train design which ensures that with only one actuator train inoperable on each of the affected SGSVs, each SGSV would still be capable of closing on demand, assuming no additional failures. Compared to Condition A however, it is appropriate to have a shorter Completion Time for Condition B since with an actuator train inoperable on each of two SGSVs, there is an increased probability that an additional failure (such as the failure of an actuation logic train) would cause an SGSV to fail to close.

The NRC staff determined that Condition B meets 10 CFR 50.36(c)(2) based on the evaluation of the revised text for LCO 3.7.2, above. The NRC staff determined that the Required Action is acceptable because it directly corrects the Condition. The NRC staff determined that the CT of 72 hours is acceptable because, similar to Condition A, above, the affected SGSVs will still close on demand.

The NRC staff determined that a reduced CT from 7 days to 72 hours is acceptable because it is necessarily more conservative than that of Condition A based on an increased likelihood of an additional failure.

3.2.4 TS 3.7.2; New Condition C

The licensee proposed to add a new Condition C, and associated Required Action and CT, as follows:

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Two SGSVs each with one actuator train inoperable and both inoperable actuator trains are in the same ESF Division.	C.1 Restore one SGSV actuator train to OPERABLE status.	24 hours

Evaluation of TS 3.7.2; New Condition C

The licensee stated the following regarding the purpose and justification of new Condition C:

> New Condition C would address the situation when two SGSV actuator trains are inoperable for different valves and the inoperable actuator trains are both in the same ESF Train. The proposed Required Action for this Condition would require restoring at least one actuator train to OPERABLE status within 24 hours.
>
> ...
>
> With one inoperable actuator train on one SGSV and one inoperable actuator train on another SGSV, but with both inoperable actuator trains in the same ESF Train, a Completion Time of 24 hours for Required Action C.1 is appropriate. Like the above cases, the dual-redundant actuator train design for each SGSV ensures that a single inoperable actuator train for any valve would not prevent the affected valve from closing on demand. In this regard, a 24 hour Completion Time is reasonable and conservative since only one actuator train per valve is permitted to be inoperable (for two SGSVs), so that the remaining OPERABLE actuator train on each affected SGSV remains capable of effecting valve closure on demand (assuming no additional failures). A Completion Time of 24 hours is also considered appropriate given the low probability of an event occurring during such an interval that would demand SGSV closure. However, compared to the Required Action for Condition B above, a shorter Completion Time for Condition C is appropriate since with two actuator trains inoperable in the same ESF Train, an additional failure such as the failure of an actuation logic train in the other ESF Train could cause both affected SGSVs to fail to close on demand.

The NRC staff determined that Condition C meets 10 CFR 50.36(c)(2) based on the evaluation of the revised text for LCO 3.7.2, above. The NRC staff determined that the Required Action is acceptable because it directly corrects the Condition.

The proposed CT of 24 hours for Condition C is based on: (1) the extent to which the affected SGSVs are impacted and (2) being less than the proposed CT of 72 hours for Condition B (two SGSVs with an inoperable actuator on different ESF divisions). An SGSV with an inoperable actuator train would still be expected to close on demand by the redundant actuation train. Based on the above, the NRC staff determined that the CT of 24 hours is acceptable.

3.2.5 TS 3.7.2; New Condition D

The licensee proposed to add a new Condition D, and associated Required Action and CT, as follows:

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two SGSV actuator trains inoperable on the same SGSV.	D.1 Declare the affected SGSV inoperable.	Immediately

Evaluation of TS 3.7.2; New D

The licensee stated the following regarding the purpose and justification of new Condition D:

> New Condition D would address the situation when both actuator trains for one SGSV are inoperable. The Required Action proposed for this Condition would require immediately declaring the affected SGSV inoperable.
>
> ... the Completion Time of "immediately" is conservative and appropriate. For Condition D, for example, when both actuator trains for one SGSV are inoperable, it is appropriate to require immediately declaring the valve inoperable since having both actuator trains inoperable would constitute a condition that renders the affected SGSV incapable of closing on demand.

The NRC staff determined that Condition D meets 10 CFR 50.36(c)(2) based on the evaluation of the revised text for LCO 3.7.2, above. Given that the two inoperable actuator trains make the SGSV incapable of performing its safety function, the NRC staff determined that the current TS Required Action and CT for an inoperable SGSV should apply. Therefore, the NRC staff determined that the proposed Required Action and CT for proposed Condition D are acceptable.

3.2.6 TS 3.7.2; New Condition E

The licensee proposed to add a new Condition E, and associated Required Action and CT, as follows:

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Three or more SGSV actuator trains inoperable. OR Required Action and associated Completion Time of Condition A, B, or C not met	E.1 Declare each affected SGSV inoperable.	Immediately

Evaluation of TS 3.7.2; New Condition E

The licensee stated the following regarding the purpose and justification of new Condition E:

> New Condition E would address the condition of having three or more SGSV actuator trains inoperable, or the condition when, after entering Conditions A, B, or C, it is determined that the Required Action and Completion Time of any of those Conditions cannot be met. The Required Action for this Condition would require immediately declaring each affected SGSV inoperable.
>
> ...
>
> With respect to Condition E, for the Condition when the Required Action and associated Completion Time of Condition A, B, or C is not met, it follows that the

affected SGSV(s) should immediately be declared inoperable since the assumption is that the Completion Time(s) of Condition A, B, or C has expired or cannot be met. This "default" Condition is in keeping with the intent that when only the actuator trains for affected SGSVs are inoperable (and not the valves themselves), the Conditions and Required Actions for the inoperable valve actuator trains should be entered first, and then if those Required Actions cannot be met, the affected SGSVs should be declared inoperable so that the Conditions and Required Actions for the inoperable valves are then entered. Required Action E.1 ensures the affected SGSV(s) are promptly declared inoperable. This format or approach is consistent with other TS and the format of the Improved Standard Technical Specifications (NUREG-1431).

For the other portion of Condition E; i.e., for the condition when three or more actuator trains are inoperable, it is conservative and appropriate as well to immediately declare the affected SGSVs inoperable for this condition. For the situation of having three inoperable actuator trains, for example, such a condition could involve two inoperable actuator trains on one valve and one inoperable actuator train on another valve, or one inoperable actuator train on each of three valves. In each case, the inoperable actuator trains could all be in the same ESF Train or be staggered among the two ESF Trains. In the former case, a single assumed failure such as an instrument logic train failure could cause one or two valves to fail to close on demand. In the latter case, such a single failure could cause either none of the valves to fail to close on demand, or all three to fail to close on demand. Thus, immediately declaring the affected SGSVs inoperable is appropriate. In any case, the conditions addressed by Condition E would constitute an inoperability that exceeds the scope of any of the conditions addressed by Conditions A, B, or C, and it is conservative in this case to require declaring all of the affected SGSVs inoperable.

Since the proposed Condition E would represent a condition in which the affected SGSVs would not be able to perform their safety function, the NRC staff concludes that it is appropriate to declare the affected SGSVs inoperable. The licensee would then follow the remedial actions already found to be acceptable by the NRC. Therefore, the staff finds the proposed Required Action and CT to be acceptable.

3.2.7 TS 3.7.2; Renumbering Existing Conditions A through D

With the proposed addition of new Conditions A through E, the licensee proposed to renumber the existing Conditions A through D. The existing conditions would become Conditions F through I, and the references in existing Conditions B and D to the existing Conditions A and C, respectively would become references to the renumbered Conditions F and H, respectively.

Evaluation of TS 3.7.2; Renumbering Existing Conditions A through D

The NRC staff determined that these changes are administrative in nature and do not materially change any existing requirements in TS 3.7.2. Based on this, the staff concludes that these changes to existing Conditions A through D are acceptable. The staff further concludes that these changes meet 10 CFR 50.36 and are, therefore, acceptable.

3.2.8 SR 3.7.2.2 Changes

Current SR 3.7.2.2 states, in part, "Verify each SGSV actuates to the isolation position on an actual or simulated actuation signal."

Revised SR 3.7.2.2 would state, in part, "Verify each actuator train actuates the SGSV to the isolation position on an actual or simulated actuation signal."

Evaluation of SR 3.7.2.2 Changes

The current SR 3.7.2.2 does not refer to the actuator train. With the explicit reference to each actuator train in the proposed SR 3.7.2.2, the SR clearly provides that the actuator trains are required to be tested. Since both actuator trains for an SGSV are capable of separately closing the valve, both actuator trains must be shown to close the valve on an actual or simulated signal. The NRC staff determined that the proposed language for SR 3.7.2.2 will assure that both actuator trains will be tested to demonstrate that each train alone can close the SGSV. This will provide assurance that the necessary quality of systems and components is maintained and that the LCOs are met. Therefore, the staff determined that the proposed SR 3.7.2.2 language is acceptable and meets 10 CFR 50.36(c)(3).

In addition, Enclosures 3 and 4 of the license amendment request dated March 24, 2017, contain marked up TS pages which show the proposed changes. The NRC staff notes that the Frequency for SR 3.7.2.1 and SR 3.7.2.2 within Enclosures 3 and 4 have since been updated. Specifically, by letter dated March 31, 2017 (ADAMS Accession No. ML17045A150), the NRC issued Amendment Nos. 334 and 316 for CNP, Unit Nos.1 and 2, respectively, which, in part, changed the frequency of SR 3.7.2.2 from "24 months" to a frequency of "In accordance with the Surveillance Frequency Control Program." In addition, by letter dated May 24, 2017 (ADAMS Accession No. ML17103A106), the NRC issued Amendment Nos. 335 and 317 for CNP, Unit Nos. 1 and 2, respectively, which, in part, changed the Frequency of SR 3.7.2.1 from "In accordance with the Inservice Testing Program" to "In accordance with the INSERVICE TESTING PROGRAM." These differences between Enclosures 3 and 4 of the license amendment request and the current SRs for CNP, Unit Nos. 1 and 2, do not affect the NRC staff's determination on the license amendment request.

3.3 Proposed TS Bases

The licensee may make changes to the TS Bases without prior NRC staff review and approval in accordance with the TS Bases Control Program discussed in CNP TS 5.5.12. Accordingly, along with the proposed TS changes, the licensee submitted, for information only, TS Bases changes corresponding to the proposed TS changes.

The NRC staff notes that the TS Bases changes are consistent with the proposed changes and provide the purpose for each requirement consistent with the Commission's Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors, dated July 22, 1993 (58 FR 39132). The NRC staff, therefore, concludes that 10 CFR 50.36(a)(1) is met in that the licensee included a summary statement of the bases for the proposed TS change. The NRC staff did not approve the TS Bases.

3.4 NRC Staff Conclusion

Based on the evaluations above, the NRC staff finds that the proposed changes to the TS 3.7.2 Conditions, Required Actions, and CTs describe appropriate remedial actions the licensee must take when the LCO is not met due to SGSV actuator train issues. Further, the NRC staff finds that the proposed change to SR 3.7.2.2 ensures that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the SR requirements are sufficient to ensure operability of the required SGSV actuator trains. The NRC staff notes that the licensee used a PRA to validate the proposed CTs. The NRC staff's review did not include the licensee's risk assessment, as such this approval should not be construed to include acceptance of application of the licensee's PRA methodology in determining the acceptability of TS CTs for CNP.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Michigan State official was notified of the proposed issuance of the amendments on November 6, 2017. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to installation or use of facility components located within the restricted area as defined in 10 CFR Part 20 or change surveillance requirements. The NRC staff has determined that the amendments involve 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 amendments involve no significant hazards consideration and there has been no public comment on such finding as published in the *Federal Register* on May 23, 2017 (82 FR 23626). Accordingly, the amendments meet 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 amendments.

6.0 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 amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: M. Hamm

Date: December 19, 2017

SUBJECT: DONALD C. COOK NUCLEAR PLANT, UNIT NOS. 1 AND 2 – ISSUANCE OF AMENDMENTS RE: LICENSE AMENDMENT REQUEST TO REVISE TECHNICAL SPECIFICATIONS SECTION 3.7.2, "STEAM GENERATOR STOP VALVES (SGSVS)" (CAC NOS. MF9539 AND MF9540; EPID: L-2017-LLA-0198) DATED DECEMBER 19, 2017

DISTRIBUTION:
PUBLIC
LPL3 r/f
RidsNrrPMDCCook Resource
RidsNrrLASRohrer Resource
RidsAcrs_MailCTR Resource
RidsNrrDssSbpb Resource
RidsRgn3MailCenter Resource
RidsOgcRp Resource
RidsNrrDorlLpl3 Resource
RidsNrrDssStsb Resource
RidsNrrDraApla Resource
RidsNrrDssSrxb Resource

ADAMS Accession No. ML17312B030 ***via memo**

OFFICE	DORL/LPL3/PM	DORL/LPL3/LA	DSS/SRXB/BC	DSS/STSB/BC(A)*
NAME	JRankin	SRohrer	JWhitman for EOesterle	JWhitman
DATE	11/15/2017	11/13/2017	11/21/2017	10/31/2017
OFFICE	DRA/APLA/BC	OGC – NLO with comments	DORL/LPL3/BC	DORL/LPL3/PM
NAME	SRosenberg	JWachutka	DWrona	JRankin
DATE	11/16/2017	12/01/2017	12/19/2017	12/19/2017

OFFICIAL RECORD COPY