



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

October 7, 2022

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  
AMENDMENT NOS. 361 AND 343 REGARDING ADOPTION OF TSTF-554,  
"REVISE REACTOR COOLANT LEAKAGE REQUIREMENTS"  
(EPID L-2022-LLA-0053)

Dear Mr. Gebbie:

The U S Nuclear Regulatory Commission (NRC, the Commission) has issued the enclosed Amendment Nos. 361 and 343 to Renewed Facility Operating License Nos. DPR-58 and DPR-74, for the Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2, respectively. The amendments consist of changes to the license and technical specifications (TSs) in response to your application dated April 7, 2022.

The amendments would revise the TSs to adopt Technical Specifications Task Force (TSTF) traveler TSTF-554, Revision 1, "Revise Reactor Coolant Leakage Requirements."

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

Sincerely,

/RA/

Scott P. Wall, Senior 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. 361 to DPR-58
2. Amendment No. 343 to DPR-74
3. Safety Evaluation
4. Notice and Environmental Finding

cc: 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. 361  
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 dated April 7, 2022, 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. 361, 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 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Nancy L. Salgado, Chief  
Plant Licensing Branch III  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Renewed Facility  
Operating License and Technical  
Specifications

Date of Issuance: October 7, 2022

ATTACHMENT TO LICENSE AMENDMENT NO. 361  
DONALD C. COOK NUCLEAR PLANT, UNIT NO. 1  
AMENDMENT TO RENEWED FACILITY OPERATING LICENSE  
DOCKET NO. 50-315

Renewed Facility Operating License No. DPR-58

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 marginal lines indicating the area of change.

REMOVE

-3-

INSERT

-3-

Technical Specifications

Replace the following pages of the Renewed Facility Operating License, Appendix A, Technical Specifications, with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the area of change.

REMOVE

1.1-3  
1.1-4  
3.4.13-1

INSERT

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1.1-4  
3.4.13-1

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. 361, 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,

## 1.1 Definitions

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	dose conversion factors for air submersion listed in Table III.1 of EPA Federal Guidance Report No. 12, 1993, "External Exposure to Radionuclides in Air, Water, and Soil."
ENGINEERED SAFETY FEATURE (ESF) RESPONSE TIME	The ESF RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its actuation setpoint at the channel sensor until the ESF equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays, where applicable. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC, or the components have been evaluated in accordance with an NRC approved methodology.
INSERVICE TESTING PROGRAM	The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f).
LEAKAGE	<p>LEAKAGE shall be:</p> <p>a. <u>Identified LEAKAGE</u></p> <ol style="list-style-type: none"><li>1. LEAKAGE, such as that from pump seals or valve packing (except reactor coolant pump (RCP) seal water injection or leakoff), that is captured and conducted to collection systems or a sump or collecting tank;</li><li>2. LEAKAGE into the containment atmosphere from sources that are both specifically located and known to not interfere with the operation of leakage detection systems; or</li><li>3. Reactor Coolant System (RCS) LEAKAGE through a steam generator to the Secondary System (primary to secondary LEAKAGE);</li></ol> <p>b. <u>Unidentified LEAKAGE</u></p> <p>All LEAKAGE (except RCP seal water injection or leakoff) that is not identified LEAKAGE; and</p>

## 1.1 Definitions

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### c. Pressure Boundary LEAKAGE

LEAKAGE (except primary to secondary LEAKAGE) through a fault in an RCS component body, pipe wall, or vessel wall. LEAKAGE past seals, packing, and gaskets is not pressure boundary LEAKAGE.

### MASTER RELAY TEST

A MASTER RELAY TEST shall consist of energizing all master relays in the channel required for channel OPERABILITY and verifying the OPERABILITY of each required master relay. The MASTER RELAY TEST shall include a continuity check of each associated required slave relay. The MASTER RELAY TEST may be performed by means of any series of sequential, overlapping, or total steps.

### MODE

A MODE shall correspond to any one inclusive combination of core reactivity condition, power level, average reactor coolant temperature, and reactor vessel head closure bolt tensioning specified in Table 1.1-1 with fuel in the reactor vessel.

### OPERABLE – OPERABILITY

A system, subsystem, train, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function(s) and when all necessary attendant instrumentation, controls, normal or emergency electrical power, cooling and seal water, lubrication, and other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its specified safety function(s) are also capable of performing their related support function(s).

### PHYSICS TESTS

PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation. These tests are:

- a. Described in Chapter 13, Initial Tests and Operation, of the UFSAR;
- b. Authorized under the provisions of 10 CFR 50.59; or
- c. Otherwise approved by the Nuclear Regulatory Commission.

### QUADRANT POWER TILT RATIO (QPTR)

QPTR shall be the ratio of the maximum upper excore detector calibrated output to the average of the upper excore detector calibrated outputs, or the ratio of the maximum lower excore detector calibrated output to the average of the lower excore detector calibrated outputs, whichever is greater.

### 3.4 REACTOR COOLANT SYSTEM (RCS)

#### 3.4.13 RCS Operational LEAKAGE

LCO 3.4.13 RCS operational LEAKAGE shall be limited to:

- a. No pressure boundary LEAKAGE;
- b. 0.8 gpm unidentified LEAKAGE;
- c. 10 gpm identified LEAKAGE; and
- d. 150 gallons per day primary to secondary LEAKAGE through any one steam generator (SG).

APPLICABILITY: MODES 1, 2, 3, and 4.

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Pressure boundary LEAKAGE exists	A.1 Isolate affected component, pipe, or vessel from the RCS by use of a closed manual valve, closed and de-activated automatic valve, blind flange, or check valve.	4 hours
B RCS operational LEAKAGE not within limits for reasons other than pressure boundary LEAKAGE or primary to secondary LEAKAGE.	B.1 Reduce LEAKAGE to within limits.	4 hours
C. Required Action and associated Completion Time not met.  <u>OR</u>  Primary to secondary LEAKAGE not within limit.	C.1 Be in Mode 3.  <u>AND</u>  C.2 Be in Mode 5.	6 hours   36 hours





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. 343  
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 dated April 7, 2022, 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. 343, 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 60 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Nancy L. Salgado, Chief  
Plant Licensing Branch III  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Renewed Facility  
Operating License and Technical  
Specifications

Date of Issuance: October 7, 2022

ATTACHMENT TO LICENSE AMENDMENT NO. 343  
DONALD C. COOK NUCLEAR PLANT, UNIT NO. 2  
AMENDMENT TO RENEWED FACILITY OPERATING LICENSE  
DOCKET NO. 50-316

Renewed Facility Operating License No. DPR-74

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 marginal lines indicating the area of change.

REMOVE

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Technical Specifications

Replace the following pages of the Renewed Facility Operating License, Appendix A, Technical Specifications, with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the area of change.

REMOVE

1.1-3  
3.4.13-1

INSERT

1.1-3  
3.4.13-1

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 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. 343, are hereby incorporated in 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

## 1.1 Definitions

	dose conversion factors for air submersion listed in Table III.1 of EPA Federal Guidance Report No. 12, 1993, "External Exposure to Radionuclides in Air, Water, and Soil."
ENGINEERED SAFETY FEATURE (ESF) RESPONSE TIME	The ESF RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its actuation setpoint at the channel sensor until the ESF equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays, where applicable. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC, or the components have been evaluated in accordance with an NRC approved methodology.
INSERVICE TESTING PROGRAM	The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f).
LEAKAGE	<p>LEAKAGE shall be:</p> <ul style="list-style-type: none"> <li>a. <u>Identified LEAKAGE</u> <ul style="list-style-type: none"> <li>1. LEAKAGE, such as that from pump seals or valve packing (except reactor coolant pump (RCP) seal water injection or leakoff), that is captured and conducted to collection systems or a sump or collecting tank;</li> <li>2. LEAKAGE into the containment atmosphere from sources that are both specifically located and known to not interfere with the operation of leakage detection systems; or</li> <li>3. Reactor Coolant System (RCS) LEAKAGE through a steam generator to the Secondary System (primary to secondary LEAKAGE);</li> </ul> </li> <li>b. <u>Unidentified LEAKAGE</u> All LEAKAGE (except RCP seal water injection or leakoff) that is not identified LEAKAGE; and</li> <li>c. <u>Pressure Boundary LEAKAGE</u> LEAKAGE (except primary to secondary LEAKAGE) through a fault in an RCS component body, pipe wall, or vessel wall. LEAKAGE past seals, packing, and gaskets is not pressure boundary LEAKAGE.</li> </ul>

### 3.4 REACTOR COOLANT SYSTEM (RCS)

#### 3.4.13 RCS Operational LEAKAGE

LCO 3.4.13 RCS operational LEAKAGE shall be limited to:

- a. No pressure boundary LEAKAGE;
- b. 0.8 gpm unidentified LEAKAGE;
- c. 10 gpm identified LEAKAGE; and
- d. 150 gallons per day primary to secondary LEAKAGE through any one steam generator (SG).

APPLICABILITY: MODES 1, 2, 3, and 4.

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Pressure boundary LEAKAGE exists	A.1 Isolate affected component, pipe, or vessel from the RCS by use of a closed manual valve, closed and de-activated automatic valve, blind flange, or check valve.	4 hours
B. RCS operational LEAKAGE not within limits for reasons other than pressure boundary LEAKAGE or primary to secondary LEAKAGE.	B.1 Reduce LEAKAGE to within limits.	4 hours
C. Required Action and associated Completion Time not met.  <u>OR</u>  Primary to secondary LEAKAGE not within limit.	C.1 Be in MODE 3.  <u>AND</u>  C.2 Be in MODE 5.	6 hours   36 hours



UNITED STATES  
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 361 AND 343 TO

RENEWED FACILITY OPERATING LICENSE NOS. DPR 58 AND DPR 74

INDIANA MICHIGAN POWER COMPANY

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

DOCKET NOS. 50-315 AND 50-316

<u>Application</u> <ul style="list-style-type: none"><li>April 7, 2022, ADAMS Accession No. ML22097A148</li></ul>	<u>Safety Evaluation Date</u> <ul style="list-style-type: none"><li>October 7, 2022</li></ul> <u>Principal Contributors to Safety Evaluation</u> <ul style="list-style-type: none"><li>Ravi Grover</li></ul>
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## 1.0 INTRODUCTION

Indiana Michigan Power Company (I&M, the licensee) requested changes to the technical specifications (TSs) for Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2 (CNP), by license amendment request (application). In its application, the licensee requested that the U.S. Nuclear Regulatory Commission (NRC, the Commission) process the proposed amendments under the Consolidated Line Item Improvement Process (CLIIP). The proposed changes would revise the TSs related to reactor coolant system (RCS) operational leakage and the definition of the term "LEAKAGE" based on Technical Specifications Task Force (TSTF) Traveler TSTF-554, Revision 1, "Revise Reactor Coolant Leakage Requirements," (TSTF-554) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20016A233), and the associated NRC staff safety evaluation (SE) of TSTF-554 (ML20322A024).

The licensee has proposed variations from the TS changes described in Traveler TSTF-554, Revision 1. The variations are described and evaluated in Section 3.2 of this SE.

### 1.1 Reactor Coolant System Description

Components that contain or transport the coolant to or from the reactor core make up the RCS. Materials can degrade as a result of the complex interaction of the materials, the stresses they encounter, and through operational wear or mechanical deterioration during normal and upset operating environments. Such material degradation could lead to leakage of reactor coolant into containment buildings.

The RCS leakage falls under two main categories – identified leakage and unidentified leakage. Identifying the sources of leakage is necessary for prompt identification of potentially adverse conditions, assessment of safety significance of the leakage, and quick corrective action. A limited amount of leakage from the reactor coolant pressure boundary (RCPB) directly into the containment/drywell atmosphere is expected as the RCS and other connected systems cannot be made 100 percent leak tight. This leakage is detected, located, and isolated from the containment atmosphere so as to not interfere with measurement of unexpected RCS leakage detection.

Leakage from the RCPB inside the primary containment/drywell is detected by independently monitored parameters, such as sump level changes and containment/drywell gaseous and particulate radioactivity levels. Plant TSs identify at least two independent and diverse means and/or methods of detection. The primary means of quantifying significant leakage in the containment/drywell is the containment/drywell sump monitoring system. The containment atmosphere particulate and gaseous radioactivity monitors are sensitive to radioactivity in any RCS leakage, but do not provide a reasonably accurate means of quantifying leakage.

The containment/drywell sump monitoring system monitors the liquid collected in the sump. This liquid consists of leakage from RCS, leakage from other systems inside primary containment (e.g., component cooling water), and condensation of steam released from the RCS or other high-temperature systems that is condensed by the containment/drywell coolers and directed to the sump. The containment sump instrumentation measures the rate of liquid accumulation in the sump, displays results in the main control room, and provides for an alarm for high rates of liquid accumulation. The rate of liquid accumulation may be determined by changes in measured level in the sump or by the time between periodic pump operation to drain the sump between known sump levels.

Gaseous and/or particulate primary containment atmospheric radioactivity monitors continuously monitor the containment atmosphere during reactor operation for indications of leakage. The RCS contains radioactivity that, when released to the primary containment, can be detected by the gaseous or particulate primary containment atmospheric radioactivity monitor. Radioactivity detection systems are included for monitoring particulate and/or gaseous activities because of their sensitivities and rapid responses to RCS leakage. Reactor coolant radioactivity levels will be low during initial reactor startup and for a few weeks thereafter, until activated corrosion products have been formed and fission products have been released from fuel elements. To enhance detection capability, radioactivity alarm settings are typically set to provide the most sensitive response without causing an excessive number of spurious alarms.

The safety significance of RCS leakage varies widely depending on its source, rate, and duration. Therefore, detecting and monitoring RCS leakage into the containment area is necessary. Separation of identified leakage from unidentified leakage provides quantitative information to the operators, allowing them to take corrective action should leakage occur that is detrimental to the safety of the unit and the public.



## 1.2 Proposed TS Changes to Adopt TSTF-554

In accordance with NRC staff-approved TSTF-554, the licensee proposed changes that would revise the TSs related to RCS operational leakage and the definition of the term "LEAKAGE." Specifically, the licensee proposed the following changes to adopt TSTF-554:

- The TS 1.1 identified LEAKAGE definition a.2 would be revised to remove the exclusion of pressure boundary leakage from identified leakage by deleting "either" and the phrase "not to be pressure boundary LEAKAGE."
- The TS 1.1 pressure boundary LEAKAGE definition c would be revised to delete the word "nonisolable." The sentence, "LEAKAGE past seals, packing, and gaskets is not pressure boundary LEAKAGE," would be relocated from the Technical Specifications (TS) Bases and added to the definition.
- Additionally, the LEAKAGE definition would be revised by other editorial and punctuation changes to reflect the deletion and listed definitions.
- The ACTIONS section of TS 3.4.13, "RCS Operational LEAKAGE," would be revised to add a new Condition A to isolate the pressure boundary leakage within 4 hours.
- Existing Condition B would be revised to be applicable should any Action of TS 3.4.13 not be met by deleting "of Condition A."
- Existing Conditions A and B would be renumbered as Conditions B and C to reflect the new Condition A. The existing Condition B would be revised to delete the condition for when pressure boundary leakage exists because pressure boundary leakage would be addressed by the new Condition A. Finally, the Required Actions associated with existing Conditions A and B would be renumbered accordingly.

## 1.3 Additional Proposed TS Changes

The application identified certain variations from TSTF-554. Section 3.2 of this SE provides a description of the variations and the NRC staff's evaluation.

## 2.0 REGULATORY EVALUATION AND GUIDANCE

The regulation at Title 10 of the *Code of Federal Regulations* (10 CFR) 50.36(c)(2) requires that TSs include limiting conditions for operation (LCOs). Per 10 CFR 50.36(c)(2)(i), LCOs "are the lowest functional capability or performance levels of equipment required for safe operation of the facility." The regulation also requires that when an LCO of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the TSs until the condition can be met. The regulation at 10 CFR 50.2 defines RCPB as "all those pressure-containing components of boiling and pressurized water-cooled nuclear power reactors, such as pressure vessels, piping, pumps, and valves ..."

Under 10 CFR 50.90, whenever a holder of a license wishes to amend the license, including technical specifications in the license, an application for amendment must be filed, fully describing the changes desired. Under 10 CFR 50.92(a), determinations on whether to grant an applied for license amendment are to be guided by the considerations that govern the issuance of initial licenses to the extent applicable and appropriate. Both the common standards for

licenses in 10 CFR 50.40(a), and those specifically for issuance of operating licenses in 10 CFR 50.57(a)(3), provide that there must be “reasonable assurance” that the activities at issue will not endanger the health and safety of the public, and that the applicant will comply with the Commission’s regulations.

Regulatory Guide (RG) 1.45, Revision 1, “Guidance on Monitoring and Responding to Reactor Coolant System Leakage,” dated May 2008 (ML073200271), Section B, Discussion “Leakage Separation,” provides information related to separation between identified and unidentified leakage.

The NRC staff’s guidance for the review of TSs is in chapter 16.0, “Technical Specifications,” of NUREG-0800, Revision 3, “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light-Water Reactor] Edition” (SRP), March 2010 (ML100351425). As described therein, as part of the regulatory standardization effort, the NRC staff has prepared standard technical specifications (STSs) for each of the LWR nuclear designs. Accordingly, the NRC staff’s review includes consideration of whether the proposed changes are consistent with NUREG-1431,<sup>1</sup> as modified by NRC-approved travelers. Traveler TSTF-554 revised the STSs related to RCS operational leakage and the definition of the term “LEAKAGE.” The NRC approved TSTF-554, under the CLIIP on December 18, 2020 (ML20324A083).

### 3.0 TECHNICAL EVALUATION

#### 3.1 Proposed TS Changes to Adopt TSTF-554

The NRC staff compared the licensee’s proposed TS changes in section 1.2 of this SE against the changes approved in TSTF-554. In accordance with the SRP chapter 16.0, the NRC staff determined that the STS changes approved in TSTF-554 are applicable to CNP because CNP is a pressurized-water reactor (PWR) design plant, and the NRC staff approved the TSTF-554 changes for PWR designs. The NRC finds that the licensee’s proposed changes to the CNP TSs in section 1.1 of this SE conform to those found acceptable in TSTF-554.

In the SE of TSTF-554, the NRC staff concluded that TSTF-554 changes to the STS 1.1 definition of “LEAKAGE” and to the STS for RCS operational leakage (the LCO addressing conditions and required actions when RCS pressure boundary leakage exists), are acceptable. The NRC staff found that removing the term “nonisolable” provides a clearer definition of pressure boundary leakage and that the source of the leakage is not relevant to the capability to collect and measure identified leakage, provided that separate, appropriate limits on pressure boundary leakage have been established. Therefore, the proposed change to the definition of identified leakage was acceptable as it did not conflict with 10 CFR 50.2 and was consistent with RG 1.45. The NRC staff further found that proposed new Condition A on boundary pressure leakage, including its associated Required Action A.1 and Completion Time, acceptable because the LCO revisions continue to specify the lowest functionable capability of equipment, identify remedial actions and require shutdown of the reactor if the remedial actions cannot be met.

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<sup>1</sup> U. S. Nuclear Regulatory Commission, “Standard Technical Specifications, Westinghouse Plants, NUREG-1431, Volume 1, “Specifications,” and Volume 2, “Bases,” Revision 5, dated December 2021 (ADAMS Accession No. ML21259A155 and ML21259A159, respectively).

The NRC staff finds that proposed changes to the TS 1.1 definition clarify what constitutes pressure boundary leakage and the source of leakage does not matter if the TSs have separate limits on pressure boundary leakage and LCO 3.4.13 correctly specify the lowest functional capability or performance levels of equipment required for safe operation of the facility. Also, the NRC staff finds that proposed changes to the Actions of LCO 3.4.13 are adequate remedial actions to be taken until each LCO can be met. Thus, the proposed changes continue to meet the requirements of 10 CFR 50.36(c)(2)(i) as discussed in section 3.0 of the NRC staff's SE of TSTF-554.

### 3.2 Additional Proposed TS Changes

#### 3.2.1 Editorial Variations

The licensee noted that the CNP TSs have different numbering and nomenclature than the STSs, as follows.

- Items a.1 and a.2 under Definition "Identified LEAKAGE" end with a comma rather than a semicolon as shown in TSTF-554. The licensee is replacing the comma at the end of items a.1 and a.2 with a semicolon for editorial consistency.
- Item a.3 under Definition "Identified LEAKAGE" already ends with a semicolon so the markups in this LAR editorially differ from TSTF-554, which shows the punctuation changing from a comma to a semicolon.

The NRC staff finds the above variations acceptable since the differences are editorial and do not affect the applicability of TSTF-554 to the proposed LAR.

#### 3.2.2 Other Variation

In addition to the changes proposed consistent with the traveler discussed in section 1.1, the licensee proposed the following variations.

- CNP TS 3.4.13, "RCS Operational LEAKAGE," limits unidentified LEAKAGE to 0.8 gallons per minute (gpm) rather than the 1 gpm allowed by the STS. The licensee stated that this more conservative limitation on unidentified LEAKAGE does not affect the applicability of TSTF-554 to the CNP TS.
- The physical configuration of the CNP RCS differ slightly from the RCS description presented in section 2.1, "Reactor Coolant System Description," of the NRC staff's SE for TSTF-554. The NRC staff's SE states that the containment sump instrumentation displays results in the main control room. The CNP containment sump instrumentation displays information via pump run time meters located on the containment auxiliaries subpanel in the auxiliary building. The licensee stated that this does not affect the applicability of TSTF-554 to the CNP TS. Further this information was recently reviewed when the NRC issued Amendments Nos 349 and 330 to CNP on January 23, 2020 (ML19329A011).

The NRC staff finds that these variations do not affect the applicability of TSTF-554 to the CNP TSs. The NRC staff, therefore, finds these variations acceptable.

### 3.3 TS Change Consistency

The NRC staff reviewed the proposed TS changes for technical clarity and consistency with the existing requirements for customary terminology and formatting. The NRC staff finds that the proposed changes are consistent with chapter 16.0 of the SRP and are, therefore, acceptable.

### 4.0 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.

NOTICES AND ENVIRONMENTAL FINDINGS

RELATED TO

RELATED TO AMENDMENT NOS. 361 AND 343 TO

RENEWED FACILITY OPERATING LICENSE NOS. DPR 58 AND DPR 74

INDIANA MICHIGAN POWER COMPANY

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

DOCKET NOS. 50-315 AND 50-316

<u>Application</u>	<u>Safety Evaluation Date</u>
<ul style="list-style-type: none"><li>April 7, 2022, ADAMS Accession No. ML22097A148</li></ul>	October 7, 2022

1.0 INTRODUCTION

Indiana Michigan Power Company (I&M, the licensee) requested changes to the technical specifications (TSs) for Donald C. Cook Nuclear Plant, Unit Nos. 1 and 2 (CNP), by license amendment request (application). In its application, the licensee requested that the U.S. Nuclear Regulatory Commission (NRC, the Commission) process the proposed amendment under the Consolidated Line Item Improvement Process (CLIIP). The proposed changes would revise the technical specifications (TSs) related to reactor coolant system (RCS) operational leakage and the definition of the term "LEAKAGE" based on Technical Specifications Task Force (TSTF) Traveler TSTF-554, Revision 1, "Revise Reactor Coolant Leakage Requirements," (TSTF-554) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML20016A233), and the associated NRC staff safety evaluation (SE) of TSTF-554 (ML20322A024).

2.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of Michigan official was notified of the proposed issuance of the amendment on July 29, 2022. The State official had no comments.

3.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to the installation or use of facility components located within the restricted area as defined in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 20 and 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 as published in the *Federal Register* on June 14, 2022

(87 FR 36008), and there has been no public comment on such finding. 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.

SUBJECT: DONALD C. COOK NUCLEAR PLANT, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENT NOS. 361 AND 343 REGARDING ADOPTION OF TSTF-554, "REVISE REACTOR COOLANT LEAKAGE REQUIREMENTS" (EPID L-2022-LLA-0053) DATED October 7, 2022

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**ADAMS Accession No.: ML22214A001**

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