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March 23, 2021

AEP-NRC-2021-24
10 CFR 50.90

Docket Nos.: 50-315
50-316

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Donald C. Cook Nuclear Plant, Unit 1 and Unit 2
REQUEST FOR APPROVAL OF CHANGE REGARDING CONTAINMENT
WATER LEVEL INSTRUMENTATION

Pursuant to 10 CFR 50.90, Indiana Michigan Power Company (I&M), the licensee for Donald C. Cook Nuclear Plant (CNP) Unit 1 and Unit 2, is requesting U. S. Nuclear Regulatory Commission (NRC) approval of a proposed change to the Technical Specification (TS) Bases for CNP Unit 1 and Unit 2. I&M proposes to modify TS 3.3.3, Post Accident Monitoring (PAM) Instrumentation, Bases. The existing TS require two channels of containment water level instrumentation to be operable. The associated TS Bases define these channels as the lower containment water level monitors, each supplemented by two level switches.

CNP Unit 1 and Unit 2 are both currently operating with one containment water level channel inoperable. The inoperability of a second containment water level channel at CNP Unit 1 or Unit 2 would require that unit to shut down if one channel cannot be restored within seven days. Due to the lead times involved in calibration, refurbishment, or replacement of lower containment water level instrumentation, and that certain portions of the instrumentation cannot be repaired or replaced online, it is unlikely that a containment water level channel could be restored within the required seven day period.

The proposed change to the TS Bases would allow one channel of TS 3.3.3, Post Accident Monitoring (PAM) Instrumentation, Function 7, Containment Water Level, to be satisfied by a train of two operable containment water level switches in the event that both containment water level channels become inoperable, because the containment water level switches will provide the relevant PAM information required by control room operators. This alternate method of satisfying containment water level channel requirements would be limited to the remaining duration of the operating cycle each time it is invoked.

The proposed change to the TS Bases would more accurately reflect the instrumentation available to control room operators at CNP Unit 1 and Unit 2 and would allow I&M to pursue resolution of an inoperable lower containment water level monitor without undue risk of a TS-required shut down.

I&M is requesting NRC approval of this TS Bases change because I&M considers the specific instrumentation used to satisfy channel requirements for TS 3.3.3, Post Accident Monitoring (PAM) Instrumentation, Function 7, Containment Water Level, which I&M is requesting to modify, as an extension of the CNP Unit 1 and Unit 2 Technical Specifications, as this information was added to the TS Bases as part of a supplement to the license amendment request for conversion to the Improved Technical Specifications consistent with Improved Standard Technical Specifications as described in NUREG-1431 (ML051320243), based on a discussion with the NRC.

Enclosure 1 provides an affirmation statement pertaining to the information contained herein. Enclosure 2 provides a description and assessment of the proposed changes. Enclosure 3 provides Unit 1 TS Bases pages, marked to show the proposed changes. Enclosure 4 provides Unit 2 TS Bases pages, marked to show the proposed changes.

In accordance with 10 CFR 50.91, a copy of this application, with enclosures, is being provided to the designated Michigan state officials.

I&M requests approval of the proposed TS Bases change commensurate with the NRC's normal review and approval schedule. Once approved, the amendment shall be implemented within 60 days of NRC approval. In the event that a second containment water level channel becomes inoperable at CNP Unit 1 or Unit 2, I&M may request that this proposed TS Bases change be approved on an emergency basis.

There are no regulatory commitments made in this submittal. Should you have any questions, please contact Mr. Michael K. Scarpello, Regulatory Affairs Director, at (269) 466-2649.

Sincerely,

Q. Shane Lies
Site Vice President
Indiana Michigan Power Company

BMC/mll

Enclosures:

1. Affirmation
2. Description and Assessment of Changes to Technical Specification Bases
3. Donald C. Cook Nuclear Plant Unit 1 Technical Specification Bases Pages Marked to Show Proposed Changes
4. Donald C. Cook Nuclear Plant Unit 2 Technical Specification Bases Pages Marked to Show Proposed Changes

c: R. J. Ancona – MPSC
EGLE – RMD/RPS
J. B. Giessner – NRC Region III
D. L. Hille – AEP Ft. Wayne, w/o enclosures
NRC Resident Inspector
R. M. Sistevaris – AEP Ft. Wayne, w/o enclosures
S. P. Wall – NRC Washington, D.C.
A. J. Williamson – AEP Ft. Wayne, w/o enclosures

Enclosure 1 to AEP-NRC-2021-24

AFFIRMATION

I, Q. Shane Lies, being duly sworn, state that I am the Site Vice President of Indiana Michigan Power Company (I&M), that I am authorized to sign and file this request with the U. S. Nuclear Regulatory Commission on behalf of I&M, and that the statements made and the matters set forth herein pertaining to I&M are true and correct to the best of my knowledge, information, and belief.

Indiana Michigan Power Company

Q. Shane Lies
Site Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 23 DAY OF March 2021

Notary Public

My Commission Expires 02/20/2025

Enclosure 2 to AEP-NRC-2021-24

Description and Assessment of Changes to Technical Specification Bases

1.0 SUMMARY DESCRIPTION

Pursuant to 10 CFR 50.90, Indiana Michigan Power Company (I&M), the licensee for Donald C. Cook Nuclear Plant (CNP) Unit 1 and Unit 2, is requesting U. S. Nuclear Regulatory Commission (NRC) approval of a proposed change to the Technical Specification (TS) Bases for CNP Unit 1 and Unit 2. I&M proposes to modify TS 3.3.3, Post Accident Monitoring (PAM) Instrumentation, Bases. The existing TS require two channels of containment water level instrumentation to be operable. The associated TS Bases define these channels as the lower containment water level monitors, each supplemented by two level switches.

The proposed change to the TS Bases would allow one channel of TS 3.3.3, Post Accident Monitoring (PAM) Instrumentation, Function 7, Containment Water Level, to be satisfied by a train of two operable containment water level switches in the event that both containment water level channels become inoperable, because the containment water level switches will provide the relevant PAM information required by control room operators. This alternate method of satisfying containment water level channel requirements would be limited to the remaining duration of the operating cycle each time it is invoked.

I&M is requesting NRC approval of this TS Bases change because I&M considers the specific instrumentation used to satisfy channel requirements for TS 3.3.3, Post Accident Monitoring (PAM) Instrumentation, Function 7, Containment Water Level, which I&M is requesting to modify, as an extension of the CNP Unit 1 and Unit 2 Technical Specifications, as this information was added to the TS Bases as part of a supplement to the license amendment request for conversion to the Improved Technical Specifications consistent with Improved Standard Technical Specifications as described in NUREG-1431 (Reference 1), based on a discussion with the NRC.

I&M is requesting that the proposed change be approved commensurate with the NRC's normal review and approval schedule. As discussed in more detail in Section 2.3 below, CNP Unit 1 and Unit 2 are both currently operating with one containment water level channel inoperable. The inoperability of a second containment water level channel at CNP Unit 1 or Unit 2 would require that unit to shut down if one channel cannot be restored within seven days. Due to the lead times involved in calibration, refurbishment, or replacement of lower containment water level instrumentation, and that certain portions of the instrumentation cannot be repaired or replaced online, it is unlikely that a containment water level channel could be restored within the required seven day period.

The proposed change to the TS Bases would more accurately reflect the instrumentation available to control room operators at CNP Unit 1 and Unit 2 and would allow I&M to pursue resolution of an inoperable lower containment water level monitor without undue risk of a TS-required shut down.

In the event that a second containment water level channel becomes inoperable at CNP Unit 1 or Unit 2, I&M may request that this proposed TS Bases change be approved on an emergency basis.

2.0 DETAILED DESCRIPTION

2.1 Design and Operation

The primary purpose of PAM instrumentation is to display unit variables that provide information required by the control room operators during accident situations. Containment water level is a Type A, Category 1 variable, as described in Regulatory Guide (RG) 1.97, Revision 3 (Reference 2), provided for determination of adverse containment conditions. In a design basis accident, containment water level instrumentation provides information to control room operators in three situations- to check if the reactor coolant system (RCS) is intact, to determine if containment water level is greater than the minimum required to begin cold leg recirculation, and to indicate that water level is approaching containment flooding level.

The CNP Unit 1 and Unit 2 TS Bases define the containment water level channels as Lower Containment Water Level Monitors NLI-320 and NLI-321. The lower containment water level monitors are capable of measuring from 599 feet (') 3 inches (") elevation to 614' elevation, which correspond to the containment floor level and maximum flood level, respectively.

Each lower containment water level monitor is supplemented by two level switches. Each level switch will provide indication in the control room when the containment water level has exceeded its associated setpoint. The containment water level switches provide improved accuracy of water level indication at key elevations within containment. One level switch actuates at a containment level of 602' 2 3/4" (NLI-330 and NLI-331), while the other level switch actuates when containment level reaches 613' 0" (NLI-340 and NLI-341). The low switch indicates when sufficient water level exists in containment to switch the emergency core cooling system suction source from the refueling water storage tank to the Containment Recirculation Sump, while the high switch confirms whether or not the containment water level is approaching its design basis value.

It should be noted that an administrative error exists in the current CNP Unit 1 and Unit 2 TS Bases, transposing NLI-331 and NLI-340. This has been corrected in Section 2.4 below, as well as in the TS Bases markups included in Enclosures 3 and 4 to this letter. Additionally, the CNP Unit 1 and Unit 2 TS Bases state that the high containment water level switch confirms whether or not the containment water level has exceeded its design basis value, when in fact the high containment water level switch confirms whether or not the containment water level is approaching its design basis value. The high containment water level switches (NLI-340 and NLI-341) are located at 613' 0" elevation, and the design basis values for CNP Unit 1 and Unit 2 containment water level are 614' elevation and 613.5' elevation, respectively. This second error has been entered into I&M's corrective action program and will be addressed under the Technical Specifications Bases Control Program.

Separately, Containment Sump Water Level is a Type B, Category 2 variable and thus is not included in CNP Unit 1 or Unit 2 TS 3.3.3, Post Accident Monitoring (PAM) Instrumentation. The associated level monitors (NLA-310 and NLI-311) are capable of measuring from 589' 5" elevation to 599' 8" elevation, which correspond to the bottom of the Containment Sump and the containment floor, respectively. The range of the Containment Sump water level monitor overlaps that of the lower containment water level monitor by five inches, and is also used in operating procedures to check if the RCS is intact following a reactor trip or safety injection.

The relevant instrumentation available to measure water level in containment, described above, is summarized in the table below.

	Description	Elevation	RG 1.97	Function
NLA-310, NLI-311	Containment Sump Water Level Monitors	589' 5" to 599' 8"	Type B, Category 2	Used by operators to check if the RCS is intact
NLI-320, NLI-321	Containment Water Level Monitors	599' 3" to 614"	Type A, Category 1	Satisfy Function 7, Containment Water Level, used by operators to check if the RCS is intact
NLI-330, NLI-331	Containment Water Level Switches (lower)	602' 2 3/4"	Type A, Category 1	Used by operators to verify sufficient water in containment to switch to recirculation
NLI-340, NLI-341	Containment Water Level Switches (upper)	613' 0"	Type A, Category 1	Used by operators to identify containment water level approaching containment flooding

2.2 Current Technical Specification Requirements

CNP Unit 1 and Unit 2 TS 3.3.3, Post Accident Monitoring (PAM) Instrumentation, requires two channels of containment water level to be operable. The associated TS Bases define these channels as Lower Containment Water Level Monitors NLI-320 and NLI-321, each supplemented by two level switches. If one channel of containment water level becomes inoperable, Required Action A.1 is to restore the required channel to operable status within 30 days. If Required Action A.1 is not met within the associated completion time, a report shall be submitted to the U. S. Nuclear Regulatory Commission (NRC) within 14 days in accordance with TS 5.6.6 Post Accident Monitoring Report.

If two channels of containment water level become inoperable, TS 3.3.3 Post Accident Monitoring (PAM) Instrumentation, Required Action D.1 is to restore all but one channel to operable status within seven days. If that required action is not completed within the associated completion time, Required Action F.1 is to be in Mode 3 within 6 hours, and in Mode 4 within 12 hours.

The current CNP Unit 1 and Unit 2 TS Bases for TS 3.3.3, Post Accident Monitoring (PAM) Instrumentation, Function 7, Containment Water Level, state:

7. Containment Water Level

   Containment Water Level is a Type A, Category 1 variable provided for determination of adverse containment conditions. Two containment water level channels are provided (NLI-320 and NLI-321). Each channel is capable of measuring from 599' 3" elevation to 614' elevation (containment floor level to maximum flood level). Additionally, each channel is supplemented by two level switches. Each level switch will provide indication in the control room when the containment water level has exceeded its associated setpoint. One level switch actuates at a containment level of 602' 2 3/4" (NLI-330 and NLI-340) while the other level switch actuates when the containment level reaches 613' 0" (NLI-331 and NLI-341). The low switch provides a decision point associated with Type A use (switch the Emergency Core Cooling System (ECCS) suction source from the refueling water storage tank to the

Containment Recirculation Sump) while the high switch confirms whether or not the containment water level has exceeded its design basis value.

The CNP Unit 1 and Unit 2 TS Surveillance Requirements (SR) associated with PAM instrumentation, SR 3.3.3.1 and SR 3.3.3.3, state:

SR 3.3.3.1	Perform CHANNEL CHECK for each required instrumentation channel that is normally energized.
SR 3.3.3.3	Perform CHANNEL CALIBRATION

2.3 Reason for the Proposed Change

On August 27, 2020, I&M submitted a report to the NRC in accordance with TS 5.6.6, Post Accident Monitoring Report, due to CNP Unit 2 Lower Containment Water Level Monitor 2-NLI-320 being inoperable greater than 30 days (Reference 3). As reported in Reference 3, the apparent cause of inoperability was a faulty test injection switch, the repair of which would require CNP Unit 2 to be below Mode 3. As stated in the report, restoration to operability is expected during the CNP Unit 2 spring 2021 refueling outage.

On November 24, 2020, I&M submitted a report to the NRC in accordance with TS 5.6.6, Post Accident Monitoring Report, due to CNP Unit 1 Lower Containment Water Level Monitor 1-NLI-320 being inoperable greater than 30 days (Reference 4). As reported in Reference 4, the apparent cause of inoperability is a faulty signal processor 1-NLI-320-SGP, which is possible to replace while in Mode 1. On January 28, 2021, I&M submitted a revised report pursuant to TS 5.6.6, Post Accident Monitoring Report, due to delays in the expected restoration date for 1-NLI-320 (Reference 5). As stated in Reference 5, the vendor determined that the spare signal processor could not be refurbished, and the lead time for procuring a new signal processor was estimated at 15 weeks, and restoration to operability is expected on or around April 13, 2021.

I&M is actively engaged with the instrument vendor to address the inoperable equipment and procure sufficient spares. Based on conversations with the vendor, due to the difficulty in procuring specialty parts and enclosures, lead times for replacement are roughly 15 weeks, while refurbishment can take 4-6 weeks, and calibration of a signal processor to a particular probe, which is performed at the vendor facility, can take 4-6 days. The seven day action statement does not provide sufficient time to restore a containment water level channel. The option to use a train of containment water level switches (NLI-330 and NLI-340 or NLI-331 and NLI-341) in place of one containment water level channel would allow I&M to pursue resolution of an inoperable lower containment water level monitor without undue risk of a TS-required shut down.

During development of this TS Bases change request it was identified that in the current CNP Unit 1 and Unit 2 TS Bases, two instrument numbers (NLI-331 and NLI-340) are transposed. This error is corrected in the proposed changes below.

2.4 Description of the Proposed Change

I&M proposes to modify the TS Bases for CNP Unit 1 and Unit 2 TS 3.3.3, Post Accident Monitoring (PAM) Instrumentation, Function 7, Containment Water Level, to read as follows (deleted text is lined through, while added text is boxed in):

7. Containment Water Level

   Containment Water Level is a Type A, Category 1 variable provided for determination of adverse containment conditions. Two containment water level channels are provided (NLI-320 and NLI-321). Each channel is capable of measuring from 599' 3" elevation to 614' elevation (containment floor level to maximum flood level). Additionally, each channel is supplemented by two level switches. Each level switch will provide indication in the control room when the containment water level has exceeded its associated setpoint. One level switch actuates at a containment level of 602' 2 3/4" (NLI-330 and ~~NLI-340~~ NLI-331) while the other level switch actuates when the containment level reaches 613' 0" (~~NLI-331~~ NLI-340 and NLI-341). The low switch provides a decision point associated with Type A use (switch the Emergency Core Cooling System (ECCS) suction source from the refueling water storage tank to the containment recirculation sump) while the high switch confirms whether or not the containment water level has exceeded its design basis value.

   If both containment water level channels (NLI-320 and NLI-321) become inoperable, a train of containment water level switches (NLI-330 and NLI-340 or NLI-331 and NLI-341) can be used in place of one containment water level channel, but only for the remaining duration of the operating cycle each time it is invoked. At least one containment water level channel shall be restored to operable status prior to startup following the next refueling outage.

3.0 TECHNICAL ANALYSIS

Indications of plant variables are required by the control room operators during accident situations to (1) provide information required to permit the operator to take pre-planned manual actions to accomplish safe shutdown; (2) determine whether the reactor trip, engineered safety feature systems, and manually-initiated safety systems and other systems important to safety are performing their intended functions; and (3) provide information to the operators that will enable them to determine the potential for causing a gross breach of the barriers to radioactivity release and to determine if a gross breach of a barrier has occurred.

RG 1.97, Revision 3 (Reference 2), describes five types of variables for the purpose of aiding in selecting accident-monitoring instrumentation and applicable criteria, Type A, B, C, D, and E. The two types of variables relevant to this amendment request are Type A and Type B variables. Type A variables are those variables to be monitored that provide primary information needed to permit the control room operators to take the specified manually controlled actions for which no automatic control is provided and that are required for safety systems to accomplish their safety functions for design basis accident events. Type B variables are those variables that provide information to indicate whether plant safety functions are being accomplished.

Design and qualification criteria for post-accident monitoring instrumentation are also delineated in RG 1.97, Revision 3. The criteria are separated into three separate groups or categories that provide a graded approach to requirements depending on the importance to safety of the measurement of a specific variable. The two categories relevant to this amendment request are Category 1 and Category 2. Category 1 provides the most stringent requirements and is intended for key variables. Category 2 provides less stringent requirements and generally applies to instrumentation designated for indicating system operating status.

Type A and Category 1 variables at CNP Unit 1 and Unit 2 meet RG 1.97 Category 1 design and qualification requirements for seismic and environmental qualification, single failure criterion, utilization of emergency standby power, immediately accessible display, continuous readout, and recording of display.

Containment water level is a Type A, Category 1 variable provided for determination of adverse containment conditions. In a design basis accident, containment water level instrumentation provides information to control room operators in three situations- to check if the reactor coolant system (RCS) is intact, to determine if containment water level is greater than the minimum required to begin cold leg recirculation, and to indicate that water level is approaching containment flooding level.

Post-Accident Monitoring - Check If RCS Is Intact

Following manual or automatic actuation of a reactor trip or safety injection, operators in the control room assess plant conditions and identify the appropriate recovery procedure. Part of assessing plant conditions is to check if the RCS is intact. This involves checking that containment radiation levels are normal, that containment pressure is less than 1.0 pounds per square inch (gauge), and that containment water level is normal, at the Containment Sump water level instruments (NLA-310, NLI-311) and at the containment water level instruments (NLI-320, NLI-321).

The primary variables used by control room operators to check if the RCS is intact are the containment radiation monitors and containment pressure. In preparation for submitting this request, two scenarios were completed in the simulator at CNP, a Large Break Loss of Coolant Accident (LOCA), and a Large Break LOCA with a Loss of Offsite Power. In the setup for both scenarios containment water level monitor NLI-320 was established as out of service, and containment water level monitor NLI-321 was set to fail prior to the step in the emergency operating procedures where operators diagnose whether the RCS is intact. In the Large Break LOCA simulation, control room operators were able to identify that the RCS was not intact based on the containment radiation monitor response and containment pressure rise. Operators did not refer to containment water level indication for diagnosis. In the simulation of a Large Break LOCA with a Loss of Offsite Power, containment pressure rise was used to transition from the diagnosis to the appropriate recovery procedure. Containment water level instruments were referenced, but Containment Sump water level (NLA-310 and NLI-311) were used for redundant indication. Loss of both containment water level instruments (NLI-320 and NLI-321) did not affect the diagnosis and response to a LOCA.

Containment Sump Water Level is a Type B, Category 2 variable, and the associated instruments NLA-310 and NLI-311 are considered Category 2 instruments. Despite being considered Category 2 instruments, NLA-310 and NLI-311 are safety-related components and are environmentally and seismically qualified, with Class 1E power supplies. The Containment Sump water level monitors meet the design and qualification criteria associated with Category 1 instruments.

In the event that both lower containment water level monitors are inoperable, containment water level up to elevation 599' 8" would still be available to control room operators. A containment water level at or above 599' 8" would be sufficient to indicate significant water on the containment floor, and as discussed above, an increase in water level in the Containment Sump can be used to provide indication to control room operators that the RCS is no longer intact in the event of a LOCA.

Post-Accident Monitoring - Minimum Recirculation Level

During the course of accident recovery it may become necessary to switch the emergency core cooling system suction source from the refueling water storage tank to the Containment Recirculation Sump. Prior to switching to recirculation, operators verify that adequate water level exists inside containment. This is accomplished by checking the status of containment water level switches NLI-330 and NLI-331, which provide indicator lights in the control room.

Containment water level switches NLI-330 and NLI-331 meet Category 1 design and qualification requirements. In the event that both lower containment water level monitors are inoperable, indication of minimum recirculation level in containment will continue to be available to control room operators.

Post-Accident Monitoring - Approaching Containment Flooding Level

Critical safety function status trees provide control room operators a mechanism for monitoring the safety state of the plant, which is evaluated based on six critical safety functions. In the critical safety function status tree for containment, containment water level is used to determine whether the water is approaching maximum design basis level. Operators monitor this status by checking the status of indicator lights associated with containment water level switches NLI-340 and NLI-341.

Containment water level switches NLI-340 and NLI-341 meet Category 1 design and qualification requirements. In the event that both lower containment water level monitors are inoperable, indication of containment water level approaching containment flooding level will continue to be available to control room operators.

Use of Level Switches for Containment Water Level

As discussed above, containment water level is a Type A variable, providing primary information needed to permit control room operators to take the specified manually controlled actions for which no automatic control is provided and that are required for safety systems to accomplish their safety functions for design basis accident events. While the lower containment water level monitors are currently the only instruments considered as containment water level channels, the containment water level switches are the instruments currently used by control room operators when making a decision regarding switching to containment recirculation, or whether the containment water level is approaching containment flooding level. The containment water level switches meet the same Category 1 criteria, as described in Reference 2, as the containment water level monitors, and the surveillance performed on the containment water level switches also meets the requirements of SR 3.3.3.1 and SR 3.3.3.3.

In addition, the containment particulate and gaseous radiation monitors, containment pressure instruments, and Containment Sump water level monitor would continue to provide control room

operators the information needed to evaluate whether the RCS is intact following a manual or automatic actuation of a reactor trip or safety injection.

4.0 REGULATORY ASSESSMENT

4.1 Applicable Regulatory Requirements/Criteria

The proposed change has been evaluated to determine whether applicable regulations and requirements continue to be met.

NUREG-0737, Clarification of TMI Action Plan Requirements (Reference 6), incorporated all Three Mile Island (TMI)-related items approved for implementation by the commission up to that point. Enclosure 1, Post-TMI Requirements for Operating Reactors, item II.F.1, Attachment 5, pertained to containment water level, stating that:

> A continuous indication of containment water level shall be provided in the control room for all plants. A narrow range instrument shall be provided for PWRs and cover the range from the bottom to the top of the containment sump. A wide range instrument shall also be provided for PWRs and shall cover the range from the bottom of the containment to the elevation equivalent to a 600,000 gallon capacity.

The containment water level switches provide continuous indication in the sense that the lights associated with the containment water level switches stay on as long as the water level remains above the setpoint and go off when the water level falls below the setpoint. As discussed above, the containment water level switches indicate containment water level at elevations 602' 2 3/4" (NLI-330, NLI-331) and 613" (NLI-340, NLI-341), which correspond to the level at which it is possible to transfer to recirculation and a level approaching the maximum design basis value, respectively. These two indications, along with the ability to use the Containment Sump water level monitor (NLA-310, NLI-311) to identify water on the containment floor, meet the intent of the range described in NUREG-0737 in that the instrumentation provides operators a sufficient understanding of containment water level at key elevations, from the containment floor to the maximum design basis value, as to allow for safe operation of the plant following a design basis accident.

Based on the considerations above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will continue to be conducted in accordance with the site licensing basis, and (3) the approval of the proposed change will not be inimical to the common defense and security or to the health and safety of the public.

In conclusion, CNP has determined that the proposed change does not require any exemptions or relief from regulatory requirements and does not affect conformance with any regulatory requirements/criteria.

4.2 No Significant Hazards Consideration

Pursuant to 10 CFR 50.90, Indiana Michigan Power Company (I&M), the licensee for Donald C. Cook Nuclear Plant (CNP) Unit 1 and Unit 2, is requesting U.S. Nuclear Regulatory Commission (NRC) approval of a proposed change to the Technical Specification (TS) Bases for CNP Unit 1 and Unit 2.

The proposed change to the TS Bases would allow one channel of TS 3.3.3, Post Accident Monitoring (PAM) Instrumentation, Function 7, Containment Water Level, to be satisfied by a train of two operable containment water level switches (NLI-330 and NLI-340 or NLI-331 and NLI-341) in the event that both containment water level channels (NLI-320 and NLI-321) become inoperable, because the containment water level switches will provide the relevant PAM information required by control room operators. This alternate method of satisfying containment water level channel requirements would be limited to the remaining duration of the operating cycle each time it is invoked.

I&M has evaluated whether or not a significant hazards consideration is involved with the proposed TS Bases change by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

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

Response: No.

The proposed TS Bases change involves changes to which existing instruments would be used to satisfy the requirements of CNP Unit 1 and Unit 2 containment water level PAM instrumentation. The proposed change does not involve a physical change to the plant or a change in the manner in which the plant is operated or controlled. The PAM instrumentation provides information to control room operators after an accident has occurred. Therefore, the probability of occurrence of an accident previously evaluated is not significantly increased by the proposed amendment.

The proposed change modifies which instruments would be used to satisfy the containment water level function for post-accident monitoring, but ensures that the information required by control room operators is still available in the event of an accident. Therefore, it is concluded that the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

Response: No.

The proposed TS Bases change involves changes to which existing instruments would be used to satisfy the requirements of CNP Unit 1 and Unit 2 containment water level PAM instrumentation and does not alter the design function or operation of any structure, system, or component that may be involved in the initiation of an accident. The proposed change does not create new failure mechanisms, malfunctions, or accident initiators. The proposed change does not involve a physical change to the plant (i.e., no new or different type of equipment will be installed) or a change to the manner in which the plant is operated or controlled. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No.

The proposed TS Bases change involves changes to which existing instruments would be used to satisfy the requirements of CNP Unit 1 and Unit 2 containment water level PAM instrumentation. This change does not alter the manner in which safety limits, limiting safety system setpoints, or limiting conditions for operation are determined. The specific set of instrument that can be used to meet the requirements for containment water level PAM instrumentation are changed, but the necessary information available to control room operators is retained. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the NRC's regulations, and (3) approval of the proposed TS Bases change will not be inimical to the common defense and security or to the health and safety of the public. I&M concludes that the proposed TS Bases change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c) and, accordingly, a finding of "no significant hazards consideration" is justified.

4.3 Environmental Consideration

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed TS Bases change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed TS Bases change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

5.0 REFERENCES

1. Letter from M. K. Nazar, Indiana Michigan Power Company (I&M) to U.S. Nuclear Regulatory Commission (NRC), "Supplement to License Amendment Request - Conversion of Current Technical Specifications (CTS) to Improved Technical Specifications (ITS) (TAC Nos. MC2629 and MC2630)," April 15, 2005 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML051320243).
2. Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," Revision 3, May 1983 (ADAMS Accession Number ML003740282).
3. Letter from Michael K. Scarpello, I&M to U.S. NRC, "Donald C. Cook Nuclear Plant (CNP), Unit 2, Report per Technical Specification 5.6.6, Inoperability of Unit 2, Post Accident Monitoring, Containment Water Level," August 27, 2020 (ADAMS Accession Number ML20248H483).
4. Letter from Michael K. Scarpello, I&M to U.S. NRC, "Donald C. Cook Nuclear Plant, Unit 1, Report per Technical Specification 5.6.6, Inoperability of Unit 1, Post Accident Monitoring, Containment Water Level," November 24, 2020 (ADAMS Accession Number ML20332A027).

5. Letter from Michael K. Scarpello, I&M to U.S. NRC, "Donald C. Cook Nuclear Station - Supplement to Report per Technical Specification 5.6.6, Inoperability of Unit 1, Post Accident Monitoring, Containment Water Level," January 28, 2021 (ADAMS Accession Number ML21036A125).
6. NUREG-0737, "Clarification of TMI Action Plan Requirements," November, 1980.

Enclosure 3 to AEP-NRC-2021-24

Donald C. Cook Nuclear Plant Unit 1 Technical Specification Bases Pages Marked to Show Proposed Changes

BASES

LCO (continued)

the collapsed water level is selected because it is a direct indication of the water inventory.

7. Containment Water Level

Containment Water Level is a Type A, Category 1 variable provided for determination of adverse containment conditions. Two containment water level channels are provided (NLI-320 and NLI-321). Each channel is capable of measuring from 599' 3" elevation to 614' elevation (containment floor level to maximum flood level). Additionally, each channel is supplemented by two level switches. Each level switch will provide indication in the control room when the containment water level has exceeded its associated setpoint. One level switch actuates at a containment level of 602' 2 3/4" (NLI-330 and ~~NLI-340~~ NLI-331) while the other level switch actuates when the containment level reaches 613' 0" (~~NLI-331~~ NLI-340 and NLI-341). The low switch provides a decision point associated with Type A use (switch the Emergency Core Cooling System (ECCS) suction source from the refueling water storage tank to the containment recirculation sump) while the high switch confirms whether or not the containment water level has exceeded its design basis value.

If both containment water level channels (NLI-320 and NLI-321) become inoperable, a train of containment water level switches (NLI-330 and NLI-340 or NLI-331 and NLI-341) can be used in place of one containment water level channel, but only for the remaining duration of the operating cycle each time it is invoked. At least one containment water level channel shall be restored to operable status prior to startup following the next refueling outage.

8. Containment Pressure (Narrow Range)

Containment Pressure (Narrow Range) is a Type A, Category 1 variable used as criteria to manually establish or trip containment spray. Four containment pressure (narrow range) channels are provided (PPP-300, PPP-301, PPP-302, and PPP-303). Each channel has a range of -5 psig to +12 psig. However, only two of containment pressure (narrow range) channels are required to satisfy the guidance in Reference 3.

9. Penetration Flow Path Containment Isolation Valve Position

Containment Isolation Valve (CIV) (excluding check valves) Position is a Category 1 variable provided for verification of Containment OPERABILITY, and Phase A and Phase B isolation.

Enclosure 4 to AEP-NRC-2021-24

Donald C. Cook Nuclear Plant Unit 2 Technical Specification Bases Pages Marked to Show Proposed Changes

BASES

LCO (continued)

the collapsed water level is selected because it is a direct indication of the water inventory.

7. Containment Water Level

Containment Water Level is a Type A, Category 1 variable provided for determination of adverse containment conditions. Two containment water level channels are provided (NLI-320 and NLI-321). Each channel is capable of measuring from 599' 3" elevation to 614' elevation (containment floor level to maximum flood level). Additionally, each channel is supplemented by two level switches. Each level switch will provide indication in the control room when the containment water level has exceeded its associated setpoint. One level switch actuates at a containment level of 602' 2 3/4" (NLI-330 and ~~NLI-340~~ NLI-331) while the other level switch actuates when the containment level reaches 613' 0" (~~NLI-331~~ NLI-340 and NLI-341). The low switch provides a decision point associated with Type A use (switch the Emergency Core Cooling System (ECCS) suction source from the refueling water storage tank to the containment recirculation sump) while the high switch confirms whether or not the containment water level has exceeded its design basis value.

If both containment water level channels (NLI-320 and NLI-321) become inoperable, a train of containment water level switches (NLI-330 and NLI-340 or NLI-331 and NLI-341) can be used in place of one containment water level channel, but only for the remaining duration of the operating cycle each time it is invoked. At least one containment water level channel shall be restored to operable status prior to startup following the next refueling outage.

8. Containment Pressure (Narrow Range)

Containment Pressure (Narrow Range) is a Type A, Category 1 variable used as criteria to manually establish or trip containment spray. Four containment pressure (narrow range) channels are provided (PPP-300, PPP-301, PPP-302, and PPP-303). Each channel has a range of -5 psig to +12 psig. However, only two of containment pressure (narrow range) channels are required to satisfy the guidance in Reference 3.

9. Penetration Flow Path Containment Isolation Valve Position

Containment Isolation Valve (CIV) (excluding check valves) Position is a Category 1 variable provided for verification of Containment OPERABILITY, and Phase A and Phase B isolation.