INDIANA MICHIGAN POWER

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AEP-NRC-2008-3
10 CFR 50.55a

Docket Nos.: 50-315
50-316

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Stop O-P1-17
Washington, D. C. 20555-0001

SUBJECT: Donald C. Cook Nuclear Plant Units 1 and 2
Relief Requests for Inservice Pressure Testing

Dear Sir or Madam:

Pursuant to 10 CFR 50.55a(a)(3)(ii), Indiana Michigan Power Company (I&M), the licensee for Donald C. Cook Nuclear Plant Units 1 and 2, hereby requests Nuclear Regulatory Commission approval of the following requests for the third ten-year interval inservice inspection testing program:

Relief Requests ISIR-23, ISIR-24, and ISIR-25 for use of proposed alternatives to the pressure retaining piping inspection requirements of the American Society of Mechanical Engineers (ASME) Code, Section XI, Table IWB-2500-1, Category B-P, Item 15.51. Compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. The proposed alternatives provide an acceptable level of quality and safety. The details of the 10 CFR 50.55a requests are enclosed.

I&M requests approval by February 23, 2009, to allow use of the alternatives during the Unit 2 Cycle 18 refueling outage.

This letter contains no new or revised commitments. Should you have any questions, please contact John A. Zwolinski, Manager of Regulatory Affairs, at (269) 466-2478.

Sincerely,

Quinton S. Lies for Joe Jensen
Quinton S. Lies

Joseph N. Jensen
Site Support Services Vice President

RSP/rdw

A047
NRR

Enclosures:

1. Relief Request ISIR-23
2. Relief Request ISIR-24
3. Relief Request ISIR-25

c: T. A. Beltz – NRC Washington, DC
J. L. Caldwell – NRC Region III
K. D. Curry – AEP Ft. Wayne
J. T. King – MPSC
MDEQ – WHMD/RPS
NRC Resident Inspector

10 CFR 50.55a Relief Request Number ISIR-23

Proposed Alternative
In accordance with 10 CFR 50.55a(a)(3)(ii)

--Hardship or Unusual Difficulty
Without a Compensating Increase in Level of Quality or Safety--

1.0 ASME CODE COMPONENTS AFFECTED

Code Class: Class 1

Category: B-P

System: Reactor Coolant Pressure Boundary (RCPB)

Affected Components: Affected Donald C. Cook Nuclear Plant (CNP), Class 1 components and piping are identified in Table 1:

Table 1	Piping Segments in Request for Relief			
Pipe Segment Description	**NPS Diameter (in.)**	**Segment Length**	**Design Pressure**	**Piping Material**
Valve 1/2-IMO-315 to 1/2-SI-158-L1/L4 Hot Leg Injection	8" to 6"	Unit 1 - 50.6' L1 Unit 1 – 67.3' L4 Unit 2 – 55.1' L1 Unit 2 - 64.6' L4	2485 psig	SA-376 Grade TP 316 Seamless Austenitic Steel Sch. 140, 160
Valves 1/2-SI-161-L1/L4 to ECCS Cold Leg Injection	6"	Unit 1 – 2.8'L1 Unit 1 – 3.1'L4 Unit 2 – 30.6'L1 Unit 2 – 4.9'L4	2485 psig	SA-376 Grade TP 316 Seamless Austenitic Steel Sch. 160
Valves 1/2-SI-166-L1/L2/L3/L4 to 1/2-SI-170-L1/L2/L3/L4 Cold Legs	10"	Unit 1 – 48.2'L1 Unit 1 – 47.8'L2 Unit 1 – 41.4'L3 Unit 1 – 46.7'L4 Unit 2 – 48.0' L1 Unit 2 – 52.9'L2 Unit 2 – 48.5'L3 Unit 2 – 48.5' L4	2485 psig	SA-376 Grade TP 316 Seamless Austenitic Steel Sch. 140
Valves 1/2-SI-238-L1/L2/L3/L4 1/2-SI-167-L1/L2/L3/L4 to Accumulator Discharge Line	¾"	Unit 1 – 4.0' L1 Unit 1 –2.3' L2 Unit 1 – 5.2' L3 Unit 1 – 10.8'L4 Unit 2 – 3.6' L1 Unit 2 – 8.0' L2 Unit 2 – 9.2' L3 Unit 2 – 8.3' L4	2485 psig	SA-376 Grade TP 304 Seamless Austenitic Steel Sch. 160
Valves 1/2-SI-161-L2/L3 to ECCS Cold Leg Injection	6"	Unit 1 – 2.1'L2 Unit 1 – 3.0'L3 Unit 2 – 27.3'L2 Unit 2 – 31.1'L3	2485 psig	SA-376 Grade TP 316 Seamless Austenitic Steel Sch. 160
Valve 1/2-RH-134 to ECCS Cold Leg Injection L3	8"	Unit 1 – 5.2' L3 Unit 2 – 5.6' L3	2485 psig	SA-376 Grade TP 316 Seamless Austenitic Steel Sch. 140
Valve 1/2-RH-133 to ECCS Cold Leg Injection L2	8"	Unit 1 – 6.9' L2 Unit 2 – 7.1' L2	2485 psig	SA-376 Grade TP 316 Seamless Austenitic Steel Sch. 140
Valve 1/2-IMO-325 to 1/2-SI-158-L2/L3 Hot Leg Injection	8" to 6"	Unit 1 – 71.5' L2 Unit 1 – 52.3' L3 Unit 2 – 61.1' L2 Unit 2 – 42.4' L3	2485 psig	SA-376 Grade TP 316 Seamless Austenitic Steel Sch. 140, 160

*** L1 is Loop 1 of RCS L2 is Loop 2 of RCS L3 is Loop 3 of RCS L4 is Loop 4 of RCS**

2.0 APPLICABLE CODE EDITION AND ADDENDA

The Code of Record for the third ten-year inservice inspection interval at CNP, Unit 1 and Unit 2, is the American Society of Mechanical Engineers Code (ASME CODE) Boiler and Pressure Vessel Code, Section XI, 1989 Edition, with no Addenda.

The third ten-year inservice inspection interval began July 1, 1996, and will conclude on February 28, 2010.

During the third ten-year inservice inspection interval, the alternative requirements of ASME Code Case N-498-1 are being implemented.

3.0 APPLICABLE CODE REQUIREMENT

The ASME Code Section XI, Table IWB-2500-1, Category B-P, Item B15.51 requires hydrostatic testing of Class 1 pressure retaining piping once per ten-year interval. Code Case N-498-1 (referenced in the CNP Ten-year Inservice Inspection Program) allows a system leakage test in lieu of the ten-year hydrostatic testing. Note 2 of Table IWB-2500-1 and Paragraph (a)(2) of N-498-1 requires that the pressurization boundary extend to all Class 1 pressure retaining components within the system boundary.

Paragraph IWB-5221(a) states, "The system leakage test shall be conducted at a pressure not less than the nominal operating pressure associated with 100% rated power."

4.0 REASON FOR REQUEST

4.1 *Background Information*

CNP's nominal reactor coolant pressure at 100% rated power is approximately 2085 pounds per square inch gauge (psig) for Unit 1 and 2235 psig for Unit 2. The piping segments noted in Table 1 above are separated by an inboard check valve from the Reactor Coolant System (RCS) and therefore, are not exposed to a pressure of 2085 psig Unit 1 and 2235 psig Unit 2. The piping for the safety injection system is pressurized to approximately 620 psig during normal plant operating conditions from the up stream injection accumulators. The piping segments from the Residual Heat Removal (RHR) system to the inboard check valve are pressurized to approximately 600 psig during reactor start-up following the refueling outage.

4.2 *Hardship or Unusual Difficulty*

CNP had considered two alternatives for meeting the applicable code requirements as described below.

1) To achieve the required test pressure, it would be necessary to use an external device to pressurize the area between the two check valves. These check valves that separate the test boundary from the RCS during full reactor pressure would require a pressure differential to ensure that the check valves would

remain in the closed position. Maintaining a differential in pressure and ensuring that there would not be any infiltration of fluid into the RCS that could cause a loss of reactivity control, is considered unusually difficult with no compensating increase in the level of quality and safety.

2) A second method considered by CNP is the use of temporary high pressure hoses connected to the RCS drain or vent lines to the above mentioned sections of piping that would bypass the isolation check valves. This method would conflict with plant design requirements and, by eliminating the double isolation boundary, would be inconsistent with the principal that is described in 10 CFR 50.55a(c)(2)(ii). Using temporary hoses to meet ASME Section XI Code requirements generates both nuclear and personnel safety concerns and is not considered a practical option.

In reference to the previously mentioned methods, Indianan Michigan Power Company (I&M) believes that compliance with the ASME Section XI Code requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

5.0 PROPOSED ALTERNATIVE AND BASIS FOR USE

5.1 *Proposed Alternative*

The piping segments identified in Table 1 are visually examined (VT-2) during each refueling outage at Nominal Operating Pressure and Nominal Operating Temperature (NOP/NOT). This examination is conducted in accordance with ASME Code Section XI, Table IWB-2500-1, Examination Category B-P, Item B15.50. This test is part of the Class 1 system leakage test with the valves positioned in their normal alignment. This examination is proposed as an alternative to the ASME Code Section XI, Table IWB-2500-1, Category B-P, Item B15.51.

5.2 *Basis for Use*

The piping segments from Table 1 of the RHR are visually examined during plant start-up following each refueling outage with the RHR pumps taking suction from the RCS with system pressure less than approximately 435 psig. The safety injection lines listed in Table 1 are pressurized to approximately 620 psig during normal plant operating conditions from the up stream injection accumulators. The safety injection accumulators have level and pressure alarms located in the control room for both units. If there was indication of RCS leakage from these segments (level or pressure loss) it would be denoted by alarms located in the control room. CNP operating procedures set in motion multiple actions, including an operator to be dispatched to the location of the incident. Current Technical Specifications require verification of level and pressure of the accumulators by monitoring controls and logging the conditions at least once every 12 hours.

The piping segments noted in Table 1 contain stainless steel pipe, valves, and weld material. These items do not contain any alloy 600/82/182 materials. CNP currently has no known degradation mechanisms taking place in these piping segments.

The piping segments that continue beyond the last check valve to the RCS loops are also constructed of the same material and specifications. These Class 1 segments are exposed to the RCS pressure and are VT-2 examined during the system leakage test conducted at the end of each refueling outage (NOP/NOT). In accordance with ASME Code requirements, I&M would identify system leakage; therefore, there is no compensating increase in quality or safety.

6.0 DURATION OF PROPOSED ALTERNATIVE

The proposed alternative is requested to be implemented during the third period of the Unit 1 and Unit 2 third ten-year inservice inspection interval at CNP.

7.0 PRECEDENT

The NRC has previously approved similar requests, as demonstrated in the correspondences listed below. The relief request for CNP is similar to these precedents in that I&M proposes to visually examine the noted piping segments for leakage after each refueling outage as part of the normal Class 1 system leakage test with valves in their normal system alignment. In this configuration, the noted piping segments would remain at the normal operating pressure of the safety injection accumulator instead of the normal RCS operating pressure. As stated in the correspondences listed below, the NRC staff concluded that pressurizing the noted piping segments in accordance with the ASME Code requirements would require significant plant modifications and would subject the licensee to an undue burden with no compensating increase in quality and safety.

- Surry Power Station, Units 1 and 2, Docket Nos. 50-280 and 50-281, "American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, Fourth 10-Year Inspection Program (TAC Nos. MC5600 and MC5586, Relief Request Nos. SPT-004 for Unit 2 and SPT-005 for Unit 1)," dated November 1, 2005.

- Beaver Valley Power Station, Units 1 and 2, BV-1 Docket No. 50-334 and BV-2 Docket No. 50-412, "American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, for Unit No. 1 (BVPS-1) third interval inservice inspection (ISI) program and Unit No.2 (BVPS-2) second 10-year ISI program (TAC Nos. MD2938 and MD2939, Relief Request No. BV3-PT-2)," dated July 18, 2007.

10 CFR 50.55a Relief Request Number ISIR-24

Proposed Alternative
In accordance with 10 CFR 50.55a(a)(3)(ii)

--Hardship or Unusual Difficulty
Without a Compensating Increase in Level of Quality or Safety--

1.0 ASME CODE COMPONENTS AFFECTED

Code Class: Class 1

Category: B-P

System: Reactor Coolant Pressure Boundary (RCPB)

Affected Components: Affected Donald C. Cook Nuclear Plant (CNP), Class 1 components and piping are identified in Table 1:

Table 1 Piping Segments in Request for Relief

Pipe Segment Description	NPS Diameter (in.)	Segment Length	Design Pressure	Piping Material
Valve 1/2-IMO-128 to 1/2-ICM-129 Hot Leg For Cooldown	14"	Unit 1 – 70.6' Unit 2 – 59.3'	2485 psig	SA-376 Grade TP 316 Seamless Austenitic Steel Sch. 160

2.0 APPLICABLE CODE EDITION AND ADDENDA

The Code of Record for the third ten-year inservice inspection interval at CNP, Unit 1 and Unit 2, is the American Society of Mechanical Engineers Code (ASME CODE) Boiler and Pressure Vessel Code, Section XI, 1989 Edition, with no Addenda.

The third ten-year inservice inspection interval began July 1, 1996, and will conclude on February 28, 2010.

During the third ten-year inservice inspection interval, the alternative requirements of ASME Code Case N-498-1 are being implemented.

3.0 APPLICABLE CODE REQUIREMENT

The ASME Code Section XI, Table IWB-2500-1, Category B-P Item B15.51 requires hydrostatic testing of Class 1 pressure retaining piping once per ten-year interval. Code Case N-498-1 (referenced in the CNP Ten-year Inservice Inspection Program) allows a system leakage test in lieu of the ten-year hydrostatic testing. Note 2 of Table IWB-2500-1 and Paragraph (a)(2) of N-498-1 requires that the pressurization boundary extend to all Class 1 pressure retaining components within the system boundary.

Paragraph IWB-5221(a) states, "The system leakage test shall be conducted at a pressure not less than the nominal operating pressure associated with 100% rated power."

4.0 REASON FOR REQUEST

4.1 *Background Information*

The primary function of the Residual Heat Removal (RHR) System is to remove decay heat energy from the reactor core to the Component Cooling Water System via the RHR heat exchangers during the second phase of plant cool down during shutdown and refueling operations. It is designed to only perform this function once the Reactor Cooling System (RCS) temperature and pressure is reduced to below the RHR design limits.

CNP's normal reactor coolant pressure at 100% rated power is approximately 2085 pounds per square inch gauge (psig) for Unit 1 and 2235 psig for Unit 2. The Class 1 RCS pressure boundary extends to the second isolation valve (ICM-129) downstream from the RCS. The section of piping between the two isolation valves noted in Table 1 above has the same design pressure as the RCS. However, this piping which is isolated from the RCS by two motor operated valves in series and the remainder of the RHR suction line, are not exposed to pressure of 2085 psig for Unit 1 and 2235 psig for Unit 2. Both valves have interlock set-points that require RCS pressure to be below 424.5 psig prior to the valves being opened.

Additionally, as the RCS pressure and temperature is increased to nominal operating pressure and temperature (2085 psig for Unit 1 and 2235 psig for Unit 2), the two motor

operated valves are closed in accordance with plant procedures when the RCS pressure exceeds 506.25 psig. Therefore, the RCS pressure and temperature at 100% rated power is isolated from the piping segments between these valves.

4.2 *Hardship or Unusual Difficulty*

CNP design configuration of the RCS meets the requirements of double-valve isolation defined in 10 CFR 50.55a(c)(2)(ii), but cannot satisfy the code requirements of ASME Code, Section XI, 1989 Edition, IWB-5221(a). Opening the RCS inlet isolation valve contradicts the philosophy of 10 CFR 50.55a(c)(2)(ii) between the Class 1 and Class 2 boundaries of the RHR system.

One method considered by CNP to comply with the referenced code requirements is the use of temporary high pressure hoses connected to the RCS drain or vent lines to the above mentioned sections of piping that would allow bypassing around the RCS inlet isolation valve. This method would conflict with plant design requirements (e.g., pressure, temperature, ASME code requirements, seismic, and loading) and by eliminating the double isolation boundary, would be unsafe from both a personnel and a nuclear safety perspective. Using temporary hoses to meet ASME Section XI Code requirements generates both nuclear and personnel safety concerns and is not considered a practical option.

Another alternative is implementation of a plant design change to install qualified piping that will allow pressurization of the pipe segment between the two motorized isolation valves. This option is considered cost prohibitive without a compensating increase in the level of safety.

In reference to the previously mentioned methods, Indiana Michigan Power Company (I&M) believes that compliance with the ASME Section XI Code requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

5.0 PROPOSED ALTERNATIVE AND BASIS FOR USE

5.1 *Proposed Alternative*

The piping segments listed in Table 1 are visually examined (VT-2) during each refueling outage during normal Class 1 walkdowns. This examination is conducted in accordance with ASME Code Section XI, Table IWB-2500-1, Examination Category B-P, Item B15.50. This test is part of the Class 1 system leakage test with the valves positioned in their normal alignment (i.e., both valves closed). This examination is proposed as an alternative to the ASME Code Section XI, Table IWB-2500-1, Category B-P, Item B15.51.

Additionally, it is proposed that the pipe segment between IMO-128 and ICM-129 be VT-2 as part of the Class 2 system functional exam preformed once every inspection period according to ASME Code Section XI, Table IWC-2500-1, Examination Category C-H, Item C7.30.

5.2 *Basis for Use*

If through-wall leakage were to occur in these piping segments, the proposed alternative examinations would identify any leakage.

The piping segments noted in Table 1 contain stainless steel pipe, valves, and weld material. These items do not contain any alloy 600/82/182 materials. CNP currently has no known degradation mechanisms taking place in these piping segments.

The piping downstream of the RCS up to the inlet valves are constructed of the same material specifications as the segment of piping listed in Table 1. These Class 1 segments are exposed to the RCS pressure and are VT-2 examined during the system leakage test conducted at the end of each refueling outage during Nominal Operating Pressure and Nominal Operating Temperature (NOP/NOT).

6.0 DURATION OF PROPOSED ALTERNATIVE

The proposed alternative is requested to be implemented during the third period of the Unit 1 and Unit 2 third ten-year inservice inspection interval at CNP.

7.0 PRECEDENT

The NRC has previously approved similar requests, as demonstrated in the correspondences listed below. The relief request for CNP is similar to these precedents in that I&M proposes to visually examine the noted piping segments for leakage after each refueling outage as part of the normal Class 1 system leakage test with valves in their normal system alignment. In this configuration, the noted piping segments would not be pressurized to the nominal RCS operating pressure. Additionally, it is proposed that the noted pipe segments be VT-2 examined as part of the Class 2 system functional exam performed once every inspection period. As stated in the correspondences listed below, the NRC staff concluded that pressurizing the noted piping segments in accordance with the ASME Code requirements would require significant plant modifications and would subject the licensee to an undue burden with no compensating increase in quality and safety.

- Surry Power Station, Units 1 and 2, Docket Nos. 50-280 and 50-281, "American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, Fourth 10-Year Inspection Program (TAC Nos. MC5587 and MC5597, Relief Request Nos. SPT-005 for Unit 2 and SPT-006 for Unit 1)," dated November 1, 2005.

- Beaver Valley Power Station, Units 1 and 2, BV-1 Docket No. 50-334 and BV-2 Docket No. 50-412, "American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, for Unit No. 1 (BVPS-1) third interval inservice inspection (ISI) program and Unit No. 2 (BVPS-2) second 10-year ISI program (TAC Nos. MD2940 and MD2941, Relief Request No. BV3-PT-3)," dated August 17, 2007.

10 CFR 50.55a Relief Request Number ISIR-25

Proposed Alternative
In accordance with 10 CFR 50.55a(a)(3)(ii)

--Hardship or Unusual Difficulty
Without a Compensating Increase in Level of Quality or Safety--

1.0 ASME CODE COMPONENTS AFFECTED

Code Class: Class 1

Category: B-P

System: Reactor Coolant Pressure Boundary (RCPB)

Affected Components: Affected Donald C. Cook Nuclear Plant (CNP), Unit 1 and Unit 2 Class 1 RCPB vent, drain and instrumentation connections. See Table 1 for information about each connection including component number, function, and configuration for the seventeen (17) small diameter (one inch or less) components and four (4) two inch drain lines from RCS cold legs to the reactor coolant drain tank.

2.0 APPLICABLE CODE EDITION AND ADDENDA

The Code of Record for the third ten-year inservice inspection interval at CNP, Unit 1 and Unit 2, is the American Society of Mechanical Engineers Code (ASME CODE) Boiler and Pressure Vessel Code, Section XI, 1989 Edition, with no Addenda.

The third ten-year inservice inspection interval began July 1, 1996, and will conclude on February 28, 2010.

During the third ten-year inservice inspection interval, the alternative requirements of ASME Code Case N-498-1 are being implemented.

3.0 APPLICABLE CODE REQUIREMENT

The ASME Code Section XI, Table IWB-2500-1, Category B-P, Item B15.51 requires hydrostatic testing of Class 1 pressure retaining piping once per ten-year interval. Code Case N-498-1 (referenced in the CNP Ten-year Inservice Inspection Program) allows a system leakage test in lieu of the ten-year hydrostatic testing. Note 2 of Table IWB-2500-1 and Paragraph (a)(2) of N-498-1 requires that the pressurization boundary extend to all Class 1 pressure retaining components within the system boundary.

Paragraph IWB-5221(a) states, "The system leakage test shall be conducted at a pressure not less than the nominal operating pressure associated with 100% rated power."

4.0 REASON FOR REQUEST

4.1 *Background Information*

CNP's nominal reactor coolant pressure at 100% rated power is approximately 2085 pounds per square inch gauge (psig) for Unit 1 and 2235 psig for Unit 2. The drain, vent, test and instrumentation connections within the RCPB consist of pipe segments that contain either two manually operated valves or a manually operated valve and end cap or blank flange that provides the design requirement for double isolation of the RCPB. During normal plant operation, each pipe segment's first isolation valve (that is, the valve closest to the primary loop piping) is maintained in the closed or locked closed position. Thus, the piping downstream of the first isolation valve is not normally pressurized.

During Mode 3 upon plant start-up, the system leakage test is performed with the Reactor Coolant System (RCS) at full operating power, approximately 2085 psig for Unit 1 and 2235 psig for Unit 2. While performing the end of interval system leakage test, it is required to have the first isolation valve in the open position to pressurize the downstream piping segment. Upon completion of this pressure test, it is required to restore double isolation from the RCS by again closing the first isolation valve.

4.2 *Hardship or Unusual Difficulty*

CNP had considered two alternatives for meeting the applicable code requirements as described below.

1) During Nominal Operating Pressure and Nominal Operating Temperature (NOP/NOT) testing, small diameter (less than one inch and four two inch) Class 1 RCPB vent, drain, fill, and instrumentation connections would require an operator to change valve positions with the RCS at approximately 2085 psig for Unit 1 and 2235 psig for Unit 2 and a temperature greater than 500 degrees Fahrenheit. These valve manipulations would need to be performed under elevated containment air temperature and humidity conditions. Due to the inaccessibility of numerous valves, it will be necessary to erect scaffolding for this evolution.

2) A second method considered by CNP is the use of temporary high pressure hoses connected to the RCS drain or vent lines in place of a blind flange or end cap. This method requires an increase in personnel to perform the testing, an increase in time to establish test conditions, and an increase in test duration which will result in increased radiation exposure to test personnel. Furthermore, this method would not test the blind flange or the end cap considering the test equipment would be connected through this location. Implementing this technique to meet ASME Section XI Code requirements generates both nuclear and personnel safety concerns and is not considered a practical option.

The expected dose for performing any one of these alternatives is estimated to be between 400 Millirem (mrem) and 700 mrem for Unit 1 and between 450 mrem and 800 mrem for Unit 2.

At Mode 3 upon plant start-up (NOP/NOT), the visually examined (VT-2) system leakage test is conducted as a critical path evolution. The valve manipulations necessary to pressurize the isolated portions of the noted vent and drain connections, and return them to their normal position would impact the duration of the outage.

In reference to the previously mentioned methods, Indiana Michigan Power Company (I&M) believes that compliance with the ASME Section XI Code requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

5.0 PROPOSED ALTERNATIVE AND BASIS FOR USE

5.1 *Proposed Alternative*

The small diameter (seventeen less than one inch and four two inch) vent, drain, and instrument connections identified in Table 1 will be VT-2 examined with the isolation valves in their normal closed position during each refueling outage to identify any evidence of past leakage and when starting-up following each refueling outage at NOP/NOT. This examination is conducted in accordance with ASME Code Section XI, Table IWB-2500-1, Examination Category B-P, Item B15.50. This test is part of the Class 1 system leakage test with the valves positioned in their normal alignment.

During operation, the RCS is monitored for leakage in accordance with the requirements of the applicable Technical Specifications.

These examinations are proposed as an alternative to the ASME Code Section XI, Table IWB-2500-1, Category B-P, Item B15.51.

5.2 *Basis for Use*

An acceptable level of quality and safety will be provided based on the following:

1. ASME Code Section XI, Paragraph IWA-4700 provides requirements for the hydrostatic pressure testing of piping and components following repair or replacement. Paragraph IWA-4700(b)(5) exempts component connections, piping, and associated valves that are one inch nominal pipe size and smaller from hydrostatic testing following a repair or replacement.

2. The non-isolable portion of the RCPB will be pressurized and VT-2 examined as required. Only the isolated portion of the small diameter (seventeen less than one inch and four two inch) vent, drain, and instrument connections will not be pressurized. These small diameter lines are in the same configuration during normal operation, approving this alternative poses no new safety concerns.

3. Technical Specifications require RCPB leakage to be monitored during normal operation. Should any of the leakage limits be exceeded, corrective actions, including shutdown, are required.

The small diameter (seventeen less than one inch and four two inch) vent, drain and instrument connections noted in Table 1 contain stainless steel pipe, valves, end caps, blank flanges, plugs, and weld material. These items do not contain any Alloy 600/82/182 materials. CNP currently has no known degradation mechanisms taking place in these piping segments.

The portions of these vent and drain lines that are not isolated from the RCPB are also constructed of the same material and specifications as the isolated portions. These non-isolated portions are exposed to the RCS pressure and are VT-2 examined during the Class 1 system leakage test conducted at the end of each refueling outage (NOP/NOT).

6.0 DURATION OF PROPOSED ALTERNATIVE

The proposed alternative is requested to be implemented during the third period of the Unit 1 and Unit 2 third ten-year inservice inspection interval at CNP.

7.0 PRECEDENT

The NRC has previously approved similar requests, as demonstrated in the correspondences listed below. The relief request for CNP is similar to these precedents in that I&M proposes to perform the system leakage test of the RCPB (conducted at or near the end of the interval) with the first isolation valve in its normal closed position, and thus, not pressurizing small diameter vent, drain, and instrument piping during the test. As stated in the correspondences listed below, the NRC staff concluded that the requirement to pressurize the downstream portions of small diameter vent, drain, and instrument piping represents a hardship without a compensating increase in the level of quality and safety.

- Davis-Besse Nuclear Power Station, Unit 1 Docket No. 50-346, "American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, Request for Relief for the Third 10-Year Interval Inservice Inspection Program Plan (TAC No. MB1607, Relief Request No. RR-A7)," dated September 30, 2002.

- Beaver Valley Power Station, Units 1 and 2, BV-1 Docket No. 50-334 and BV-2 Docket No. 50-412, "American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, for Unit No. 1 (BVPS-1) Third 10-Year Interval Inservice Inspection (ISI) Program and Unit No.2 (BVPS-2) Second 10-year Interval Inservice Inspection (ISI) Program Plan (TAC Nos. MD2936 and MD2937, Relief Request No. BV3-PT-1)," dated August 3, 2007.

Table 1	CNP Unit 1 and Unit 2 Segments		
Segments	**Description**	**Function**	***Inboard* Valve Normally Closed**
1	SI-169-Loop 1, on 1" Vent line with end cap	Safety Injection Vent	Yes
2	SI-169-Loop 4, on 1" Vent line with end cap	Safety Injection Vent	Yes
3	SI-157-Loop 4, on 1" Vent line with end cap	Safety Injection Vent	Yes
4	SI-157-Loop 1, on 1" Vent line with end cap	Safety Injection Vent	Yes
5	SI-156-East, on 1" Drain line with end cap	Safety Injection Drain	Yes
6	SI-169-Loop 3, on 1" Vent line with end cap	Safety Injection Vent	Yes
7	SI-169-Loop 2, on 1" Vent line with end cap	Safety Injection Vent	Yes
8	SI-157-Loop 2, on 1" Vent line with end cap	Safety Injection Vent	Yes
9	SI-157-Loop 3, on 1" Vent line with end cap	Safety Injection Vent	Yes
10	SI-156-West, on 1" Drain line with end cap	Safety Injection Drain	Yes
11	RH-136, on 3/4" Drain line with 3/4" test connection	Residual Heat Removal Drain	Yes
12	SI-167-1, on 3/4" Drain line with end cap	Safety Injection Accumulator Vent	Yes
13	SI-167-2, on 3/4" Drain line with end cap	Safety Injection Accumulator Vent	Yes
14	SI-167-3, on 3/4" Drain line with end cap	Safety Injection Accumulator Vent	Yes
15	SI-167-4, on 3/4" Drain line with end cap	Safety Injection Accumulator Vent	Yes
16	RC-131, on 3/4" Vent line	Pressurizer Vent to Atmosphere	Yes
17	RC-163, on 3/4" Instrumentation line	Mid-loop Monitoring System	Yes
18	RC-113 Loop 1, 2" Drain Line	Cold Leg Drain Line to Reactor Coolant Drain Tank	Yes
19	RC-113 Loop 2, 2" Drain Line	Cold Leg Drain Line to Reactor Coolant Drain Tank	Yes
20	RC-113 Loop 3, 2" Drain Line	Cold Leg Drain Line to Reactor Coolant Drain Tank	Yes
21	RC-113 Loop 4, 2" Drain Line	Cold Leg Drain Line to Reactor Coolant Drain Tank	Yes