U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-315/85034(DRS); 50-316/85034(DRS)

Docket No. 50-315; 50-316 License No. DPR-58; DPR-74

Licensee: American Electric Power
Service Corporation
Indiana and Michigan Power
Company
1 Riverside Plaza
Columbus, OH 43216

Facility Name: D. C. Cook Nuclear Plant, Units 1 and 2

Inspection At: D. C. Cook Site, Bridgman, MI

Inspection Conducted: December 2, 1985, through February 14, 1986

Inspectors: Andrew Dunlop for M. L. McCormick-Barger 3-5-86
Date

Andrew Dunlop for S. A. McNeil 3-5-86
Date

Approved By: Andrew Dunlop for M. A. Ring, Chief 3-5-86
Test Programs Section Date

Inspection Summary

Inspection on December 2, 1985, through February 14, 1986 (Reports No. 50-315/85034(DRS); 50-316/85034(DRS))
Areas Inspected: Routine, announced inspection to review licensee action on previous inspection findings, intermediate range nuclear instrumentation, rod drop time testing, core power distribution limits, core thermal power evaluation and a Licensee Event Report. The inspection involved 144 inspector-hours onsite and 11 inspector-hours offsite by two NRC inspectors.
Results: Of the six areas inspected, no violations or deviations were identified in three areas. In two of the remaining three areas, one violation with several examples was identified; (failure to properly implement and maintain surveillance procedures. - Paragraphs 2, 3.a, 3.b.(1) and 3.b.(2)). In the final area (LER review), inspector concerns will be identified in Inspection Reports 50-315/86005; 50-316/86005.

DETAILS

1. Persons Contacted

+#*W. G. Smith, Jr., Plant Manager
+#*A. A. Blind, Assistant Plant Manager, Maintenance
+*B. A. Svensson, Assistant Plant Manager, Operations
+L. S. Gibson, Superintendent, Technical Engineering
*C. A. Ross, Technical Engineer
#C. E. Miles, C&I Section Head
P. F. Helms, C&I Assistant Section Head
T. Johnson, C&I Supervisor
B. Radde, Administrative Compliance Coordinator, C&I
T. Turner, Performance Engineer, C&I
G. Wallace, Performance Engineer, C&I
+#*R. W. Hennen, Supervisor, Nuclear Engineering
A. Verteramo, Senior Performance Engineer, Nuclear
M. Whitley, Performance Engineer, Nuclear
J. Cole, Performance Engineer, Nuclear
*J. Stietzel, Quality Control Superintendent
+#*J. Rischling, Quality Control
+*J. McElligott, Quality Assurance
+#M. L. Horvath, Quality Assurance Site Supervisor
+#D. W. McAlhany, Quality Assurance Auditor
#K. R. Baker, Superintendent, Operations
#C. E. Murphy, Production Supervisor

Some persons in addition to those listed above attended the February 14, 1986, exit interview. For a more complete list of persons in attendance at the February 14, 1986, exit interview, refer to Inspection Reports 50-315/86005; 50-316/86005.

*Denotes personnel present at the exit interview on December 6, 1985.
#Denotes personnel present at the exit interview on January 10, 1986.
+Denotes personnel present at the exit interview on February 14, 1986.

2. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Items (315/85028-04; 316/85028-04): implementation of Procedure 12-THP 6030.IMP.062 regarding bistable adjustments. The inspector performed followup inspection effort regarding these unresolved items. (Note: The original write-up related to these items, in Inspection Report No. 85028, noted that the inspector found seven bistables that were adjusted during July 1985. This should have stated six bistables (2TB-442D, 2PB-455D, 2PB-456D, 2LB-548C, 2FB-510A and 2FB-510B).). In response to these items, the licensee issued a memorandum from C. E. Miles, Control and Instrumentation (C&I) Section Head, to all C&I Supervisors, dated August 28, 1985. This memorandum directed all supervisors to read 12-THP 6030.IMP.062, "Protection System Bistable Adjustment/Replacement

Procedure," and to make an entry into the bistable adjustment surveillance notebook (Attachment 2 of IMP.062) whenever a bistable required readjustment to return it to specifications. In addition, W. G. Smith, Jr., D. C. Cook Plant Manager, in a November 27, 1985, letter to J. G. Keppler, Regional Administrator, NRC Region III, stated that the aforementioned procedure had not been properly followed, but rather, an earlier practice of logging these bistable adjustments on a wall chart posted in the C&I shop was being used. The letter also asserted that the plant manager had issued a separate letter on September 16, 1985, to all plant supervisors "emphatically directing that total procedural compliance is a must." The inspector performed a sample review of Unit 2 surveillances performed from September to December 1985, and of the bistable readjustment surveillance notebook. The following discrepancies were noted:

a. Of the five bistable adjustments back to specifications that the inspector noted during the review of Unit 2 surveillances performed from September to December 1985, one bistable trip adjustment had not been conducted in accordance with Procedure IMP.062.

Surveillance	Date	Bistable	Function Adjusted
2-THP 4030.STP.116	October 19, 1985	2LB-549A	Trip

b. Additionally, another of the five bistable adjustments, a bistable reset adjustment (listed below), had not been conducted in accordance with Procedure IMP.062. According to the licensee, Procedure 12-THP 6030.IMP.062 applies to bistable trip adjustments but not to bistable reset adjustments. Based on a brief inspection of Procedure 12-THP 6030.IMP.062, the inspector had no concerns with the statement made by the licensee, however, a more thorough review of the licensee's methods of controlling bistable reset adjustments will be made in a subsequent inspection.

Surveillance	Date	Bistable	Function Adjusted
2-THP 4030.STP.116	September 6, 1985	2LB-549A	Reset

c. Although Attachment 2 of IMP.062 indicated that bistables 2PB-514D and 2LB-549A had failed twice (failure can be defined as a bistable requiring adjustment to bring it back to specifications), only one of the bistables, 2PB-514D, had been replaced as required by Section 4.2 of IMP.062.

d. Though Section 3.7 of IMP.062 requires that the surveillance test frequency of failed bistables be increased to a 14 day test cycle, the licensee apparently failed to do so for the following failed bistables.

Bistable	Date Failed
2PB-514D	October 4, 1985
2LB-549A	September 6, 1985
2LB-549A	October 3, 1985
2LB-549A	October 19, 1985
2LB-549A	November 26, 1985

e. The licensee stated (W. G. Smith, Jr. letter of November 27, 1985) that all bistables listed as being adjusted in NRC Inspection Reports 50-315/85028; 50-316/85028 were recorded on a chart. In addition, the licensee asserted during the inspection that all charted bistables had been transcribed to the bistable readjustment surveillance notebook (Attachment 2 of IMP.062). The inspector observed that only three of the bistables referred to in the Inspection Report were recorded in the bistable readjustment surveillance notebook.

The information contained in Inspection Reports 50-315/85028; 50-316/85028 relating to Unresolved Items 315/85028-04; 316/85028-04, together with the items discussed in Paragraphs 2a, 2c, 2d, and 2e above, are considered examples of a violation of Technical Specification 6.8.1.c (315/85034-01a(DRS); 316/85034-01a(DRS)).

No additional violations or deviations were identified.

3. Intermediate Range Nuclear Instrumentation

The inspector reviewed the surveillance procedures and results of the Unit 1 Intermediate Range Nuclear Instrumentation (IRNI) channel calibrations and Channel Functional Tests (CFTs) performed for Unit 1 Cycle 9.

Procedure No.	Title
1-THP 4030.STP.025	"Intermediate Range Nuclear Instrumentation Protection Set I (N-35) Surveillance Test"
1-THP 4030.STP.026	"Intermediate Range Nuclear Instrumentation Protection Set II (N-36) Surveillance Test"
1-THP 4030.STP.080	"SU(1) Instrumentation Checks Prior to Startup"
1-THP 6030.IMP.130	"Intermediate Range Nuclear Instrumentation Calibration (N-35, N-36)"

The inspector observed several discrepancies in the adequacy and implementation of these procedures:

a. IRNI Calibration (Channels N-35 and N-36)

Licensee Procedure 1-THP 6030.IMP.130, Revision 2, "Intermediate Range Nuclear Instrumentation Calibration (N-35, N-36)" requires that the licensee record certain information on the data record sheets in order to properly perform and document the performance of the calibration. The inspector found that the following required calibration data entries, for both IRNI channels, had not been made during the Unit 1 IRNI calibration conducted on May 31, 1985:

Data Entry Required	
Steps 8.7.1-2, -3, -9, & -10	"Loss of Comp Voltage Bistable Adjustments" - as found and as left data
Steps 8.7.2-2, -3, -9, & -10	"Loss of Detector Voltage Bistable Adjustments" - as found and as left data
Step 8.7.3-1	"High Level Rod Stop Bistable" - required reset value
Step 8.7.5-1	"High Level Trip Bistable" - required trip (N-35 only) and required reset values

In addition, several inconsistencies between procedural guidance and the calibration data were observed (applicable to both channels):

(1) In Step 8.4.25 the value recorded (1 X 10 EE-11) for the picoampere source output check of IRNI Channel N-35, conducted at the 1 X 10 EE-11 ampere level, was out of the specified tolerance band (1.5 X 10 EE-11 to 3 X 10 EE-11) provided on the calibration data entry sheet. No notations, adjustments, or corrections were made.

(2) The "High Level Rod Stop" bistable reset calibration checks, performed for each IRNI channel during Steps 7.15 and 9.15, were not 50% below the bistable trip checks of Steps 7.14 and 9.14, as required by this procedure.

Step	Trip Value	Required Reset	Reset Used
	Channel N-35		
7.15	6.5 X 10 EE-5	3.3 X 10 EE-5	2.3 X 10 EE-5
9.15	6.5 X 10 EE-5	3.3 X 10 EE-5	2.5 X 10 EE-5

Channel N-36

7.15	7.6 X 10 EE-5	3.8 X 10 EE-5	2.8 X 10 EE-5
9.15	7.7 X 10 EE-5	3.9 X 10 EE-5	3.0 X 10 EE-5

(3) The "High Level Trip" bistable reset calibration checks, performed during Steps 7.19 and 9.19, were not one-half of a decade below the bistable trip checks of Steps 7.18 and 9.18, as required. The reset values recorded were less conservative than required by this procedure, since the bistables reset at values closer to the trip value.

Step	Trip Value	Required Reset	Reset Used
	Channel N-35		
7.19	7.5 X 10 EE-5	2.4 X 10 EE-5	3.7 X 10 EE-5
9.19	7.8 X 10 EE-5	2.5 X 10 EE-5	3.9 X 10 EE-5
	Channel N-36		
7.19	9.6 X 10 EE-5	3.0 X 10 EE-5	4.4 X 10 EE-5
9.19	9.6 X 10 EE-5	3.0 X 10 EE-5	4.4 X 10 EE-5

(4) The range required by the IRNI calibration for the trip point of the "Power above P-6" bistable for each IRNI channel was given on the calibration data entry sheet as 9.5 X 10 EE-11 to 10 X 10 EE-10 amps. This range should have been 9.5 X 10 EE-11 to 1 X 10 EE-10 amps as given in Revision 4 (November 1985) of the calibration procedure (IMP.130). In addition, Step 7.8 in each of the IRNI Channel Functional Tests (CFTs), 1-THP 4030.STP.025 and .026, states that the required trip range for this bistable shall be 1 ± .3 X 10 EE-10 amps, which is not consistent with the above calibration procedure band.

b. IRNI Channel Functional Tests (CFTs)

Between October 7, and November 18, 1985, seven CFTs were conducted on each IRNI channel. Two of these were 1-THP 4030.STP.080, "SU(1) Instrument Checks Prior to Startup" and the other five were 1-THP 4030.STP.025 (and .026), "Intermediate Range Nuclear Instrumentation Protection Set I (N-35) (and Set II (N-36)) Surveillance Test." Steps 7.11 and 7.12 of STPs .025 and .026 and Steps 7.3.8, 7.3.9, 7.4.7 and 7.4.8 of STP.080 require the use of trip setpoints, obtained from the latest IRNI calibration data; to perform the CFTs for both "High Level Rod Stop" and "High Level Trip" bistables. The inspector observed the following discrepancies:

(1) The trip values of the aforementioned bistables used for Channel N-35 in its CFTs (STPs .025 and .080) were not those provided in the latest calibration performed on the IRNI (May 31, 1985). The value for the "High Level Rod Stop"

bistable trip was a different value from that in the calibration, whereas, no value for the "High Level Trip" bistable trip had been given in the calibration, but the CFTs reported a value.

During the CFTs for N-36, two different values were used for the "High Level Rod Stop" bistable trip and four different values were used for the "High Level Trip" bistable trip. Only one of these trip values for each of these bistables was consistent with the trip values required to be used (i.e., the trip values from the channel calibration).

Channel N-35

Surveillance	Date	Bistable Trip Setpoints	
		High Level Trip	High Level Rod Stop
Calibration (required values):	May 31, 1985	No value provided	6.4 X 10 EE-5
STP.025	October 7, 1985	6.7 X 10 EE-5	6 X 10 EE-5
STP.080	November 5, 1985	8.0 X 10 EE-5	6.4 X 10 EE-5
STP.025	November 5, 1985	6.2 X 10 EE-5	6.0 X 10 EE-5
STP.080	November 11, 1985	6.2 X 10 EE-5	6.0 X 10 EE-5
STP.025	November 13, 1985	6.2 X 10 EE-5	6.0 X 10 EE-5
STP.025	November 17, 1985	6.2 X 10 EE-5	6.0 X 10 EE-5

Channel N-36

Surveillance	Date	Bistable Trip Setpoints	
		High Level Trip	High Level Rod Stop
Calibration (required values):	May 31, 1985	9.6 X 10 EE-5	7.7 X 10 EE-5
STP.026	October 9, 1985	8.0 X 10 EE-5	7.7 X 10 EE-5
STP.080	November 5, 1985	9.6 X 10 EE-5	7.5 X 10 EE-5
STP.026	November 5, 1985	8.5 X 10 EE-5	7.5 X 10 EE-5
STP.080	November 11, 1985	8.5 X 10 EE-5	7.5 X 10 EE-5
STP.026	November 13, 1985	8.5 X 10 EE-5	7.5 X 10 EE-5
STP.026	November 18, 1985	7.0 X 10 EE-5	7.5 X 10 EE-5

On October 9, 1985, the licensee wrote a job order (No. 90840) to change the bistable setpoints to the following values:

Channel	Bistable Trip Setpoint	
	High Level Trip	High Level Rod Stop
N-35	6.7 X 10 EE-5	6.0 X 10 EE-5
N-36	8.9 X 10 EE-5	7.7 X 10 EE-5

The licensee did not make procedural changes to any of the STPs that would permit the use of values other than those prescribed by the calibration procedure. In addition, since the band permitted for the setpoints of each bistable trip is 0.3 X 10 EE-5, most of the values used for the High Level Trip bistable trips of each channel did not correspond to either the required values provided in the calibration procedure or those provided by job order No. 90840.

(2) During these surveillances, the trip setpoints of these bistables for each channel were adjusted numerous times to different values. This included one occurrence where the values for both bistable trips of IRNI N-35 were adjusted to a new value and then returned to their original values during the same CFT (STP.025 of November 13, 1985) because the licensee was concurrently utilizing two different setpoint documents which contained different data.

The inspector found that no procedural change sheets (temporary changes) had been issued for any of the items listed in Paragraphs 3.a., 3.b.(1) and 3.b.(2) above, to approve the various setpoints used for these bistables. In addition, the licensee apparently took no action to ensure that the proper bistable trip setpoint data was utilized.

(3) Step 5.3 of licensee Procedure 1-THP 4030.STP.080, "SU(1) Instrument Checks Prior to Startup," requires that this procedure be performed within seven days prior to startup (or rod drop time testing) in order to meet the requirements of Technical Specification 4.3.1.1.1, Table 4.3-1, Item 5. Also, Step 5.4 of this procedure states that when "equipment is removed from service for surveillance testing, it cannot be called operable, or the test completed until it meets specifications." The inspector found that the "High Level Trip" bistable trips of N-35 and N-36 and the "High Level Rod Stop" bistable trip of N-35 for the surveillance performed on November 11, 1985, prior to Unit 1 startup for the "zero to power ascension" tests, did not meet the specifications required from the IRNI calibration of May 31, 1985. This test (STP.080) was signed off as completed and reviewed. The licensee became aware that these setpoints were erroneous prior to startup, but rather than reperforming the applicable portions of this procedure (STP.080), the licensee reset the trips using STPs .025 and .026. The inspector was not able to complete a review to determine the acceptability of using STPs .025 and .026 instead of reperforming portions of STP.080 during this inspection, therefore, this will be an Open Item (315/85034-02(DRS); 316/85034-02(DRS)) pending further NRC review in a subsequent inspection.

The items discussed in Paragraphs 3.a, 3.b.(1) and 3.b.(2) are examples of failure to follow documented procedures as a result of procedural inadequacies and procedural noncompliance. These failures resulted in trip setpoints which were greater than the required values on at least one occasion; however, the Technical Specification limits were not exceeded.

The licensee identified and corrected the incorrect setpoints prior to the subsequent startup. The failures are considered examples of a violation of Technical Specification 6.8.1.c (315/85034-01b(DRS); 316/85034-01b(DRS)).

c. Control and Instrumentation Reference File Control

During this inspection, a copy of the C&I Reference File Copy of 1-OHP 6030.IMP.130, dated March 31, 1985, was provided to the NRC which contained a "required data" value for the intermediate range channel N-35 High Level Trip, whereas the controlled copy from the Data Control Vault did not contain such a value. According to the C&I Section Head, the C&I Reference File Copy of IMP.130 is referred to during the performance of other C&I procedures related to Nuclear Instrumentation. Since this and other C&I documents contained in the C&I File are used for safety-related work, they need to be controlled to the extent necessary to ensure they are acceptable as references for safety-related work. The individual that wrote the value in the blank space on the C&I reference copy of IMP.130 recognized that C&I reference documents should not be marked on without using a formal change process. He stated that it was not his customary practice to informally mark up C&I reference documents, but that he had apparently done so when he was using the document during discussions with the nuclear group. A contributing factor to this may have been that the procedure was not identified in any way as being a C&I Reference File Copy (it was simply stamped "uncontrolled copy" as would be any copy of that procedure received from document control). Immediate corrective actions taken were: (1) a copy of IMP.130 performed March 31, 1985, was ordered from the vault to be placed in the C&I Reference File, (2) a temporary label was placed on the C&I Reference File Cabinets to indicate that the C&I reference documents should not be marked on (the licensee stated that this would be converted to a permanent label), and (3) at the end of the inspection, with the exception of the supervisor on the evening shift, all of the C&I Supervisors had been reminded not to informally mark up C&I reference file documents. The licensee stated that the evening shift supervisor would also be notified. The C&I Section Head also intends to evaluate other measures to improve control of the C&I reference documents. This issue will be an Open Item (315/85034-03(DRS); 316/85034-03(DRS)) pending completion of corrective actions and subsequent NRC review.

No additional violations or deviations were identified, however two areas require further review and are documented as open items.

4. Rod Drop Time Testing (Unit 1)

The inspector reviewed the licensee's rod drop time surveillance procedure (12-THP 4030.STP.387, Revision 9, "Rod Drop Measurements,") and the results for Unit 1 Cycles 8 and 9. The procedure appeared to satisfy the surveillance requirements of Technical Specification 4.1.3.3. A review of the completed surveillance records indicated that the rod drop time tests were apparently performed properly and at the correct frequencies.

No violations or deviations were identified.

5. Core Power Distribution Limits (Unit 1)

The inspector began a review of licensee procedures and results related to core power distribution limits for Unit 1 Operating Cycle 8 and the startup of Cycle 9. The inspector utilized the following procedures during the review:

Procedure No.	Title
1-OHP 4030.STP.030, Revision 13	"Operations Daily and Shift Surveillance Checks"
1-OHP 4030.STP.032, Revision 5	"Quadrant Power Tilt Ratio Calculation"
1-THP 4030.STP.330, Revisions 8 and 9	"Surveillance of Core Power Distribution Limits"
PMI-4030, Revision 9, Attachment 9	"Surveillance Contingency List"

The procedures appeared to satisfy the surveillance requirements of Technical Specifications 4.2.1.1 through 4.2.5.2. A review of the completed surveillance records indicated that the periodic and startup core power distribution limits surveillances were performed properly and at the correct frequencies. This review resulted in the following inspector concern:

Technical Specification 4.2.4c requires that the quadrant power tilt ratio be determined to be within the limit at least once per 12 hours when operating above 75% rated thermal power with one Power Range Nuclear Instrumentation (PRNI) channel inoperable. Procedure 1-OHP 4030.STP.032, Revision 5, "Quadrant Power Tilt Ratio (QPTR) Calculation" utilizes the 120% current values for each of the upper and lower PRNIs to calculate the QPTR. Step 8.2 of this procedure states that the values for the 120% currents may be obtained from the PRNI calibration data. In addition, Step 4.2 requires that the 120% currents from the previous PRNI calibration be used until all four new currents are available. On March 8, 1985, an incore flux map was performed and new 120% currents were determined. The March 9, 1985, QPTR calculation was performed using these new 120% currents. Subsequently, from 8:10 a.m. on March 11, 1985, until 12:48 a.m. on March 13, 1985, the licensee performed QPTR calculations at least every 12 hours, since one PRNI was always inoperable during this period due to calibration activities. The inspector found that four of the QPTR calculations performed utilized the old 120% current data (from December 15, 1984), rather than the new 120% current data (from March 8, 1985). At 4:08 p.m. on March 12, 1985, the licensee recommenced using the new 120% currents for the QPTR calculations. Inspector reconstruction of the QPTRs, using the new 120% currents in place of the old, and vice versa, indicated that the QPTR was within the limit during this period. Discussions with numerous licensee personnel indicated that general confusion existed as to when the licensee should commence using the new 120% currents for QPTR determinations. Though no Technical Specification limits were exceeded in this instance, the potential exists in this type of situation for a QPTR to be determined to be within the limit when it is

actually out of specification. This item shall remain open (315/85034-04(DRS); 316/85034-04(DRS)), pending the upgrading of procedural controls over the method of QPTR calculation.

No violations or deviations were identified, however, one area requires furthr review and will be followed as an open item.

6. Core Thermal Power Evaluation

The inspector began a review of Unit 1 Cycles 8 and 9 core thermal power evaluations utilizing the following procedures and records:

12-THP 4030.STP.219, Revision 3, "Thermal Power Measurement and Reactor Coolant System Flow Rate" performed for Unit 1 Cycle 9, October 23, through November 24, 1985, at 48% power and 68% power. (Since Unit 1 Cycle 9 power level had not exceeded 80% power at the time of the inspection, the procedure had not yet been performed at 80% power and 90% power.)

Data/Signoff Sheet 6.1 for Procedure 1-OHP 4030.STP.029, Revision 7, "Reactor Thermal Power Determination" for the following dates:

January 1-11, 1985
January 29-31, 1985
February 1-28, 1985
March 1-31, 1985
April 1-5, 1985

Based on the initial review, the inspector had no concerns. Further review will be performed during a subsequent NRC inspection.

No violations or deviations were identified.

7. Licensee Event Report Followup

Through discussions with licensee personnel and review of records, the following Licensee Event Report (LER) was reviewed to determine whether reportability requirements were met, and corrective and preventive actions were accomplished in accordance with Technical Specifications and required codes and standards.

The following LER is considered closed. (Followup concerns will be addressed in Inspection Reports 50-315/86005; 50-316/86005).

- LER 315/85069 — While plotting intermediate range detector current versus thermal power during Unit 1 Cycle 9 startup testing, the trip setpoint for Intermediate Range Channel N-35 was determined to be above the allowable Technical Specification limit and the channel was declared

inoperable. An emergency job order was issued to reduce the Channel N-35 trip setpoint and, thereby, return it to operability. The LER abstract stated that "The trip setpoint was erroneous because core leakage (a major factor in the determination of the setpoint) was less than anticipated by previous calculations."

The inspector reviewed the following records:

- Condition Report 1-11-85-2334, "Intermediate Range Channel N-35 neutron flux trip greater than 30% rated thermal power," - this was the condition report associated with LER 315/85069.

- Procedure 12 THP 6040.PER.359, Revision 3, "Zero Power and Power Ascension Tests," performed for Unit 1 Cycle 9 during November 1985 through January 1986.

- Procedure 12 THP 6040.PER.359, Revision 1, "Zero Power and Power Ascension Tests," performed for Unit 1 Cycle 8 during October 1983 through February 1984.

- Procedure 1 OHP 4030.STP.030, "Operations Daily and Shift Surveillance Checks," Operations Shift Surveillance Checks (Modes 1, 2, 3, 4) Data/Signoff Sheet 6.3 for the following dates: November 7-13, 1983, January 10-20, 1984, May 10-20, 1984, September 10-20, 1984, November 15-20, 1984, February 15-28, 1985, and March 1-5, 1985.

- Technical Department Quality Control Action Request, AR No. 742, completed October 7, 1983. (Action: Review IE Information Notice No. 83-43, "Improper Settings of Intermediate Range High Flux Trip Setpoints," and establish methods to be used during startup testing to ensure that intermediate range and power range trip setpoints are initially set conservative until accurate detector currents versus reactor power is determined.)

- Unit 1 Cycle 9 Flux Map 109-08, January 10, 1986, Option No. 3, Job No. 3390, 2-D Analytical Factors.

- Unit 1 Cycle 8 Flux Map 108-10, November 8, 1983, Option No. 6, Job No. 2998, 3-D Analytical Factors.

- Unit 1 Cycle 8 Flux Map 109-06, March 26, 1985, Option No. 6, Job No. 1115, 3-D Analytical Factors.

- Job Order 90840, File No. IN-C&I-1-IR, requested October 3, 1985 and completed October 9, 1985,-adjustment of nuclear instrumentation system intermediate range detectors due to an anticipated intermediate range current decrease of approximately 15.7%.

- Job Order 111980, File No. IN-C&I-1-STP, requested November 7, 1985, and completed November 13, 1985,-to conduct functional tests on the source, intermediate and power range channels within 12 hours prior to initiating Unit 1 Cycle 9 startup physics tests.

- Job Order 105764, File No. IN-C&I-1-NI, requested November 18, 1985, and completed November 20, 1985,-to investigate why the intermediate range Channel N-35 high level rod stop bistable was not tripped when actual power level was 29%, it should have tripped at 20% power.

- Emergency Job Order 14606, File No. IN-C&I-1-NI, requested November 17, 1985, and completed November 17, 1985,-to reduce Unit 1's intermediate range Channel N-35 neutron flux trip setpoint to 3.5 X 10 E-5 amps (corresponding to 25% power trip).

- WCAP-10862, "Core Physics Characteristics of the Donald C. Cook Station Nuclear Plant (Unit 1, Cycle 9)," August 1985. Figures 3.2A and 3.3A.

- WCAP-10376, "Core Physics Characteristics of the Donald C. Cook Station Nuclear Plant (Unit 1, Cycle 8)," July 1983. Figure 3.2a.

- Calculation, "Determination of Unit 1 Cycle 9 Power Range Detector Currents and Source Range Trip Setpoints," performed by

Joe Cole and checked by Michael Whitley prior to Unit 1 Cycle 9 (no date given). Included in this calculation was the determination of the trip setpoints for intermediate range detectors N-35 and N-36.

The inspector had some concerns based on the review that appeared to be an example of a violation of the corrective action requirements of 10 CFR 50, Appendix B, Criterion XVI. The details of these concerns will be presented in Inspection Reports 50-315/86005: 50-316/86005.

No additional violations or deviations were identified.

8. Open Items

Open items are matters which have been discussed with the licensee, which will be reviewed further by the inspector, and which involve some action on the part of the NRC or licensee or both. Open items disclosed during the inspection are discussed in Paragraphs 3.b.(3), 3.c. and 5.

9. Exit Interview

The inspectors met with licensee representatives (denoted in Paragraph 1) on December 6, 1985, January 10, 1986, and February 14, 1986, to discuss the scope and findings of the inspection. The licensee acknowledged the statements made by the inspectors with respect to items including the violation (Paragraphs 2 and 3) discussed in the report. The inspector also discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspectors during the inspection. The licensee did not identify any such documents/processes as proprietary.