

December 4, 2001

Mr. M. Reddemann  
Site Vice President  
Kewaunee and Point Beach Nuclear Plants  
Nuclear Management Company, LLC  
6610 Nuclear Road  
Two Rivers, WI 54241

SUBJECT: POINT BEACH NUCLEAR PLANT  
NRC INSPECTION REPORT 50-301/01-16(DRP)

Dear Mr. Reddemann:

On November 2, 2001, the NRC completed a supplemental inspection at your Point Beach Nuclear Plant. The results of this inspection were discussed on November 2, 2001, with you and other members of your staff. The enclosed report presents the results of that inspection.

In July 2001, your performance indicator (PI) submittal to the NRC reported that recent plant trips had resulted in the Unit 2 Unplanned Scrams PI crossing the threshold from Green to White. The reduced safety margin associated with this PI warranted a supplemental NRC inspection and assessment of your actions to improve performance under the Initiating Events Cornerstone of the Reactor Safety Strategic Performance Area.

Based on the review of your root cause evaluations for the four individual plant trips and the cumulative evaluation of all the events, we have concluded that your corrective actions have addressed the underlying root cause and contributing causes for the events. The evaluations were determined to have an acceptable level of detail and followed structured approaches for performing such reviews. The corrective actions associated with each of the events adequately addressed the identified root and contributing causes. Consequently, no findings of significance were identified during this inspection.

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Sincerely,

Original signed by  
Michael Kunowski for

Roger D. Lanksbury, Chief  
Projects Branch 5

Docket Nos. 50-266; 50-301  
License Nos. DPR-24; DPR-27

Enclosure: Inspection Report 50-301/01-16

cc w/encl: R. Grigg, President and Chief  
Operating Officer, WEPCo  
R. Anderson, Executive Vice President  
and Chief Nuclear Officer  
T. Webb, Licensing Manager  
D. Weaver, Nuclear Asset Manager  
F. Cayia, Plant Manager  
J. O'Neill, Jr., Shaw, Pittman,  
Potts & Trowbridge  
K. Duveneck, Town Chairman  
Town of Two Creeks  
D. Graham, Director  
Bureau of Field Operations  
A. Bie, Chairperson, Wisconsin  
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S. Jenkins, Electric Division  
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-301  
License No: DPR-27

Report No: 50-301/01-16(DRP)

Licensee: Nuclear Management Company, LLC

Facility: Point Beach Nuclear Plant, Unit 2

Location: 6610 Nuclear Road  
Two Rivers, WI 54241

Dates: October 29 through November 2, 2001

Inspector: P. Krohn, Senior Resident Inspector, Point Beach

Approved by: Roger D. Lanksbury, Chief  
Projects Branch 5  
Division of Reactor Projects

## SUMMARY OF FINDINGS

IR 05000301-01-16(DRP), on 10/29-11/02/2001, Nuclear Management Company, LLC; Point Beach Nuclear Plant, Unit 2.

### Cornerstone: Initiating Events

This supplemental inspection was performed to assess the licensee's evaluation of the Unplanned Scrams per 7,000 Critical Hours Performance Indicator (PI) for Unit 2 which transitioned from Green to White in the second quarter of 2001. The evaluation was determined to be acceptable. The licensee utilized a structured approach to evaluate the circumstances of the individual plant trips and the collective significance of the four trips to identify potential common causes.

The inspector determined that corrective actions for each of the plant trips contributing to the White PI corresponded with the root and contributing causes identified by the root cause evaluations. The corrective actions were either completed or being tracked for completion. In two of the four trips, the corrective action and root cause program established a process for performing assessment reviews to assess the effectiveness of corrective actions.

Due to the licensee's acceptable performance in addressing the root and contributing causes of the individual plant trips which contributed to exceeding the licensee response threshold for Unplanned Scrams, the White PI associated with this issue will only be considered in assessing plant performance for a total of four quarters, in accordance with the guidance in IMC 0305, "Operating Reactor Assessment Program."

#### A. Inspector-Identified Findings

No findings of significance were identified.

#### B. Licensee-Identified Findings

No findings of significance were identified.

## Report Details

### 01 Inspection Scope

This supplemental inspection was performed by the NRC to review the licensee's evaluation associated with the Unit 2 Performance Indicator (PI) for Unplanned Scrams per 7,000 Critical Hours exceeding the licensee response band threshold. This threshold is greater than three unplanned scrams during the previous four quarters, both manual and automatic. The four unplanned scrams are described below:

- Automatic reactor trip on December 14, 2000, during the course of a reactor startup with neutron flux in the intermediate range. The reactor trip occurred when the red channel intermediate range detector drawer for the 2N35 nuclear instrument experienced a control power fuse failure. The loss of power to the intermediate range detector drawer resulted in an Intermediate Range High Power Reactor Trip from the one-out-of-two logic since all of the protective relays associated with the channel failed in the protection direction when control power was lost. Since the reactor was critical at the time of the trip, this event counted towards the PI.
- Automatic reactor trip on December 20, 2000, during power ascension following the U2R24 refueling outage. Unit 2 experienced a turbine trip at approximately 63 percent power when a neutral overcurrent relay detected a phase current imbalance on the main generator output. The turbine trip resulted in an automatic Unit 2 reactor trip. Hence, this event counted towards the PI.
- Automatic reactor trip from full power on February 6, 2001, when Unit 2 experienced a main electrical generator lockout which caused an immediate opening of the main generator breaker. The opening of the generator breaker caused a turbine trip which led to a reactor trip from 100 percent power. Hence, this event counted towards the PI.
- Manual reactor trip on June 27, 2001, from approximately 70 percent reactor power when Unit 2 experienced a decreasing circulating water pump bay level to the point where, per Abnormal Operating Procedure (AOP) 13A, a reactor trip was required. The decreasing pump bay was attributed to the influx of a large number of small fish (alewives) on the Unit 2 traveling water screens causing a high differential water level across the screens. Hence, this event counted towards the PI.

The above four Unit 2 trips resulted in the PI crossing into the White band in the second quarter of 2001. This supplemental inspection was performed in accordance with Inspection Procedure 95001. The following details are organized by the specific inspection requirements of Inspection Procedure 95001 which are noted in italics in each section.

## 02 Evaluation of Inspection Requirements

### 02.01 Problem Identification

- a. *Determination of who (i.e., licensee, self-revealing, or NRC) identified the issue and under what conditions*

Following each of the self-revealing plant trips, the licensee made the required notifications, took actions to place the plant in a safe shutdown condition, documented the circumstances in its corrective action program as condition reports (CRs), and submitted the appropriate licensee event reports (LERs). The following CRs were initiated following the plant trips:

- CR 00-4121, "Reactor Trip Unit 2 Nuclear Instrument Intermediate Range Level High Blown Fuse 2N35"
- CR 00-4185, "Unit Lockout Causes Reactor Trip"
- CR 01-0389, "Unit 2 Generator Lockout/Reactor Trip"
- CR 01-2178, "Large Fish Kill Results in Unit 2 Trip"

- b. *Determination of how long the issue existed, and prior opportunities for identification*

Following the fourth reactor trip, the licensee recognized that the PI Green to White threshold had been crossed and initiated a root cause evaluation (RCE) to examine the causes of the trips and identify any common causes or themes associated with the four events. This condition was documented in CR 01-2198, "Unit 2 Performance Indicator Change."

Based on the records reviewed and interviews of licensee personnel, the inspector determined that the licensee had properly identified and documented the circumstances involving each of the four plant trips and recognized that the PI value had crossed the threshold into the regulatory response band (White). Appropriate reviews and evaluations were performed to fully assess the causes of the four trips and, when the PI threshold was crossed, to identify any potential common causes. Each reactor trip evaluation documented how long the issue had existed and, where applicable, prior opportunities for identification.

- c. *Determination of the plant-specific risk consequences (as applicable) and compliance concerns associated with the issue*

The licensee completed a probabilistic risk assessment evaluation of the PI change. The inspector reviewed the evaluation to ascertain whether the risk significance and initiating event frequency of the four individual events had resulted in an increase in the probabilistic risk assessment model calculated core damage frequency (CDF). The licensee analysis evaluated the Unit 2 initiating events frequency for two different six-calendar-year-periods: 1994 through 1999 (just prior to the most recent trips) and July 1995 through June 2001 (including the most recent trips). The data for these two periods included reactor trips both with and without the normal heat sink being available. The evaluation was performed as a two-step process: first, the CDF change for each reactor trip type was evaluated, and second, the two resulting CDF changes were



summed together to find the total impact from the change in both initiators. The Unit 2 trip data was combined with generic industry data for the appropriate reactor trip initiator using Bayesian updating to arrive at two initiating event frequencies for each trip category, one for each of the two time periods. The two initiating event frequencies were then multiplied by the conditional core damage probability for the reactor trip events, which had been derived from the Point Beach 1996 probabilistic risk assessment model results. This provided two values of CDF, one for the 1994 through 1999 period, and one for the July 1996 through June 2001 period. The difference between these two CDF values for each initiator type was summed together to arrive at a CDF change for the four trip events of  $1.4E-6$ /year. The licensee's risk analysis was considered to be acceptable.

## 02.02 Root Cause and Extent of Condition Evaluation

### a. *Evaluation of method(s) used to identify root cause(s) and contributing cause(s)*

The licensee performed formal, structured evaluations for each of the four plant trips. Additionally, an evaluation was also performed to determine the potential common causes for the four events which resulted in the PI crossing the Green to White PI threshold. The evaluations are listed below.

- RCE 00-111, "Point Beach Nuclear Plant Unit 2 Trip During Startup"
- RCE 00-117, "Unit 2 Generator Lockout"
- RCE 01-005, "Unit 2 Generator Lockout and Trip from 100 Percent Power"
- RCE 01-041, "Unit #2 Manual Trip Due to Decreasing Pump Bay Level" (Traveling Water Screens Plugged With Large Influx of Small Fish)
- RCE 01-043, "Change in Unit 2 Performance Indicator for Unplanned Scrams Per 7000 Critical Hours"

The first two reactor trips were evaluated using apparent cause determinations. In each case, the licensee's Corrective Action Review Board (CARB) maintained the significance level classification of the events, specified additional actions, and accepted the more brief apparent cause evaluation (ACE) technique. Given that the first two trips were caused by single, self-revealing, easily-identified equipment failures, the inspector considered the level-of-effort applied to the ACEs adequate.

The third and fourth reactor trips were evaluated using RCEs which utilized formal, structured methods to evaluate the circumstances, root cause, and contributing causes of the events. These methods included failure mode identification, event and casual factors analysis, and change analysis. The licensee used a combination of these root cause analysis techniques to evaluate the third and fourth trips, in accordance with Operating Experience Guideline 001, "Root Cause Evaluation."

The last RCE (01-043) did not incorporate event and causal factor charts since the purpose of the evaluation was to consider the four earlier evaluations to identify potential common causes. The last RCE, however, did utilize a comparison chart for root and contributing causes, operating experience reviews, and corrective action effectiveness and completion reviews to develop conclusions. Although briefly considered in RCE 01-043, the inspector noted that the licensee did not perform formal

barrier analyses concerning receipt inspection aspects of the first three trips, each of which involved equipment failures. The inspector performed an independent barrier analysis, interviewed supply receipt inspection personnel, and reviewed selected equipment receipt documents. The inspector concluded that previous receipt inspection activities had not provided any additional opportunities to identify or predict the equipment failures associated with the first three reactor trips.

*b. Level of detail of the RCE*

The three RCEs and two ACEs were performed in accordance with Operating Experience Guideline 001. The guideline provided sufficient guidance for personnel to follow a structured and methodical approach to evaluating events. The inspector determined that the RCEs and ACEs associated with the four events were performed with sufficient detail and analysis to support the conclusions reached. The RCEs and, to the extent required, the ACEs documented reviews and considered previous operating experience, organizational response, human error, programmatic weakness, procedure and training adequacy, external events, and communications.

Each of the RCEs and ACEs adequately incorporated internal and external operating experience into the scope of review. The analysis technique chosen was considered to be appropriate to each particular event and each of the identified failure modes. These failure modes were then used to help identify the root cause and contributing causes.

*c. Consideration of prior occurrences of the problem and knowledge of prior operating experience*

Each of the RCEs performed considered past occurrences of similar problems, both from internal or external operating experience. For example, RCE 01-005, regarding the main generator lockout and trip from 100% power due to actuation of an electrical protection system relay, evaluated past occurrences of the relay actuation at Point Beach, as well as at other fossil plants in the utility's electrical distribution system. Industry databases were also searched to identify incidents having to do with this type of generator protection relay.

The inspector observed that RCE 01-041 was particularly noteworthy in that it thoroughly evaluated the event for prior occurrences of decreasing pump bay level deteriorating to the point where a manual reactor trip was required. The RCE thoroughly investigated the history of pump bay level determinations, operations department repeated requests for level instrumentation, engineering modification requests, and past fish intrusion events. As an example of the thoroughness, the RCE report documented fifteen opportunities to have installed automatic pump bay level indication through the modification prioritization process, the operator work around program, and the corrective action process that had occurred prior to the event. Considering prior operating experience and knowledge of the problem, the RCE properly concluded that ineffective station priority and decision-making in supporting repetitive requests for pump bay level indication resulted in pump bay level indication not being readily available to the operating crew during the June 2001 fish intrusion event.

Overall, the three RCEs and two ACEs properly considered and evaluated internal and external prior operating experience as part of the evaluations.

d. *Consideration of potential common cause(s) and extent of condition of the problem*

Following the Green to White threshold for the Unit 2 Unplanned Scrams being crossed, the licensee performed RCE 01-043, "Change In Unit 2 Performance Indicator for Unplanned Scrams Per 7000 Critical Hours." This RCE was not performed as an evaluation of an event, but rather as a collective evaluation of the events which caused the PI to transition from Green to White. This RCE evaluated the results of the two RCEs and two ACEs for the four plant trips and evaluated the potential for common causes and themes for these events.

Data analysis for RCE 01-043 included: reviews of documentation for the previous RCEs, ACEs, and LERs from each of the events, development of a comparison chart for root and contributing causes, extent-of-condition reviews, and RCE corrective action effectiveness and completion reviews. The RCE documented the conclusion that equipment failures, problems, or inadequacies played a role in each of the four reactor trips. The first plant trip was caused by failure of a control power fuse. A procedure review process failed to detect an error in the N35 calibration procedure which allowed a bistable to chatter, damaging the control power fuse to the point that when the circuit picked up during the reactor startup, the fuse failed causing the reactor trip. The inspector verified, through reviews of selected nuclear instrument calibration procedures and interviews of instrumentation and control personnel, that calibration procedures had been adequately revised to prevent the chattering of bistable relays during subsequent calibration activities.

The second reactor trip occurred because of the failure of a wire crimp, which had been inadequately assembled by the main transformer vendor over 14 years ago. The failure was attributed to deterioration of the inadequate crimp over time. The inspector reviewed the licensee's extent-of-condition investigation for the failed wire crimp and noted that the associated work orders for the six main power transformers inspected had included documentation of two loose current transformer (CT) posts, one loose post in each of the Unit 1 and Unit 2 main power transformer 'B' phases. Given that two CTs in the six power transformers inspected were found to have loose posts, the inspector inquired as to whether other similar power transformers that could affect initiating event frequencies or mitigating safety systems had been considered for further inspections. Specifically, the inspector interviewed selected operations and electrical engineering department personnel asking whether, based on observations during the wire crimp inspections, the 4160-volt safeguards bus electrical power transformers, 1X-04 and 2X-04, had been scheduled for extent-of-condition CT inspections. The inspector discovered that the licensee had limited consideration to the direct power block transformers during extent-of-condition crimp failure reviews but, when made aware of the loose posts during subsequent inspection activities, had failed to consider the potential common mode failure problem of loose posts on safety-related system transformers. Based on the inspector's observation, the licensee wrote work orders to inspect the safeguards bus 1X-04 and 2X-04 CTs. The failure to consider the potential common mode failure potential of loose CT posts on all plant transformers during wire crimp failure extent-of-condition reviews was entered in the licensee's corrective action

program as CR 01-3317, "X-04 Transformers Not Inspected." Since no actual failures of the safeguards bus transformers or power supplies occurred and the busses remained full operable, no violation of regulatory requirements was determined to have occurred.

The third reactor trip appeared to have been a spurious actuation of an electrical protection system component, the RAGEA relay. Following the reactor trip, the licensee modified the turbine trip function of the relay to an alarm function only. The last event, a manual reactor trip due to a large fish influx had three deficiencies contributing to the root cause. The first was a failure by station management to aggressively pursue an equipment inadequacy, the lack of an adequate measurement system for pump bay water levels. The second deficiency was an operator lack-of-knowledge and training issue that led to the operating crew belief that it was necessary to reduce power prior to continuing forward in the AOP. The third deficiency was an operations department procedure inadequacy which did not allow for problem mitigation by securing one circulating water pump prior to directing manual pump bay level determination.

In RCE 01-043, the licensee documented the conclusion, that while problems with equipment and procedures did exist, each of the trip events was a result of a unique set of circumstances. The licensee concluded that there did not appear to be any single, definitive common cause or theme for the four events. The inspectors noted that the procedural problems/inadequacies evident in two of the four trips (RCE 00-111 and RCE 01-041) had already been identified as a common problem at Point Beach which resulted in the performance of RCE 00-104 (CR 00-3940), "Common Cause Assessment for Procedural Quality Issues." The inspectors reviewed RCE 00-104 and determined that adequate actions were being taken to resolve the identified procedure problems. Overall, the inspector concluded that the licensee's RCE 01-043 adequately evaluated the potential for common cause among all four events.

## 02.03 Corrective Actions

### *a. Appropriateness of corrective action(s)*

The inspector reviewed the two ACEs, three RCEs, and associated corrective actions. The corrective actions were clearly described and were entered into the licensee's tracking system. The inspector selected a number of corrective actions in each of the RCEs and ACEs and verified that they had been completed or were being tracked for resolution and closure. The established corrective actions were determined to be appropriate in that they addressed the root and contributing causes identified within each of the RCEs and ACEs.

### *b. Prioritization of corrective actions*

The corrective actions developed as part of the ACEs and RCEs were prioritized in accordance with the licensee's corrective action program, as prescribed in Nuclear Procedure (NP) 5.3.1, "Condition Reporting System." Prioritization of the corrective actions was not based on risk perspectives or analysis but rather based on a deterministic approach considering the significance level of the CR as established in the licensee's corrective action program.

c. *Establishment of schedule for implementing and completing the corrective actions*

The licensee's corrective action program, as described in procedure NP 5.3.1, identified the process for assigning significance levels for CRs. Subsequently, CRs were evaluated and corrective actions were identified. These corrective actions were assigned a priority level commensurate with safety significance. These priority levels had corresponding time limits for implementing the corrective actions. The inspector reviewed a limited number of corrective actions which had not been completed by the initially assigned date. In each case, reasonable extensions to complete the corrective action had been granted in accordance with licensee procedures. The licensee's program relied upon a deterministic approach to establish the priority levels and did not incorporate risk perspectives into determining the priority. Overall, the inspector concluded that the corrective actions associated with these events and CRs, were either completed or being tracked for completion.

d. *Establishment of quantitative or qualitative measures of success for determining the effectiveness of the corrective actions to prevent recurrence*

The licensee's RCE guideline (Operating Experience Guideline 001) contained guidance for performing effectiveness reviews. The effectiveness reviews were performed after corrective actions had been implemented to ensure that the ACE or RCE identified and corrected the root cause of the problem. Various methods of effectiveness reviews were available, including field verification or observation, audit or surveillance.

Of the four reactor trips, two included effectiveness reviews of corrective actions. For RCE 00-117, "Unit 2 Generator Lockout," a review was assigned by the licensee's Corrective Action Review Board to review the effectiveness of the organizational response to the trip. The effectiveness review concluded that, given the lengthy U2R24 refueling outage and the subsequent startup difficulties, the organization had responded adequately to the failed wire crimp which caused the reactor trip. Although not completed during this supplemental inspection, the inspector noted that RCE 01-041, "Unit #2 Manual Trip Due to Decreasing Pump Bay Level (Traveling Water Screens Plugged with Large Influx of Small Fish)," included an effectiveness review of the pump bay level indication modification status during November 2001.

For RCE 01-005, "Unit 2 Generator Lockout and Trip from 100 Percent Power," involving the RAGEA relay, the inspectors noted that the corrective action program did not include any effectiveness reviews concerning subsequent relay actuations. Given that the licensee had surmised that the root cause of the trip was a spurious actuation of the REGEA relay, the inspector asked what controls were in place to monitor subsequent actuations of the relay, an important measure to determine whether the root cause of the relay actuation and reactor trip had been definitively determined and eliminated. Through interviews and alarm response procedure verification, the inspector learned that engineering personnel had installed a temporary modification to monitor the third harmonic voltage measured by the RAGEA relay and had been tracking the number of relay actuations on a daily basis.

The inspector concluded that the licensee had a program for performing effectiveness reviews. While one effectiveness review was not being formally tracked under the

auspices of the corrective action program, engineering personnel were effectively monitoring the frequency of the RAGEA relay actuations to ensure the root cause of the February 2001 turbine and reactor trip had been eliminated. Overall, the inspector concluded that the licensee was adequately performing reviews to ascertain the effectiveness of corrective actions.

03 Management Meetings

On November 2, 2001, the inspector presented the inspection results to Mr. M. Reddemann and other members of licensee management. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

## PARTIAL LIST OF PERSONS CONTACTED

### Licensee

M. Reddemann, Site Vice President  
A. Cayia, Plant Manager  
D. Schoon, Operations Manager  
J. Strharsky, Assistant Operations Manager  
M. Rinzel, Operations - Corrective Actions  
C. Krause, Regulatory Compliance  
T. Chiles, Site Support Services Manager  
P. Knoespel, Nuclear Safety Analysis  
F. Flentje, Regulatory Compliance

## ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened

None

### Closed

None

### Discussed

None

## LIST OF ACRONYMS USED

ACE	Apparent Cause Evaluation
AOP	Abnormal Operating Procedure
ARP	Alarm response Procedure
CARB	Corrective Action Review Board
CDF	Core Damage Frequency
CR	Condition Report
CT	Current Transformer
DRP	Division of Reactor Projects
ICP	Instrumentation and Control Procedure
LER	Licensee Event Report
NP	Nuclear Power Business Unit Procedure
NRC	Nuclear Regulatory Commission
PI	Performance Indicator
PRA	Probabilistic Risk Assessment
RCE	Root Cause Evaluation
RMP	Routine Maintenance Procedure
WO	Work Order



LIST OF DOCUMENTS REVIEWED

RCE 00-111 Unit 2 Reactor Trip During Startup

RCE 00-11 (CR 00-4121) Apparent Cause Determination	Unit 2 Reactor Trip During Startup	December 14, 2000
CR 00-4121	Reactor Trip U2 [Unit 2] NIS [Nuclear Instrument System] Intermediate Range Level HI Blown Fuse 2N35	December 14, 2000
LER 301/2000-006-00	Failed Fuse in Intermediate Range Nuclear Detector Results in Reactor Scram	January 12, 2001
NP 5.3.3, Attachment A	Incident Investigation and Post-Trip Review, Unit 2 Trip December 14, 2000	December 14, 2000
Instrumentation and Control Procedure (ICP) 1ICP 02.007	Nuclear Instrumentation Power Range Channels Quarterly Surveillance Test	Revision 5
1ICP 02.007-1	Nuclear Instrumentation Power Range Channels Quarterly Surveillance Test	Revision 11
1ICP 02.009-1	Nuclear Instrumentation Intermediate Range Pre-Startup Surveillance Test	Revision 5
2ICP 02.009-1	Nuclear Instrumentation Intermediate Range Pre-Startup Surveillance Test	Revision 5
1ICP 02.007	Nuclear Instrumentation Power Range Channels 92 Day Channel Operational Test	Revision 6, Draft E
1ICP 02.022	Nuclear Instrumentation System Power Range Channels Shutdown Operational Test	Revision 4, Draft B
1ICP 02.009	Nuclear Instrumentation Intermediate Range 92 Day Surveillance Test	Revision 2, Draft C
1ICP 02.010	Nuclear Instrumentation Source Range Channel Operational Test	Revision 4, Draft B
1ICP 02.014	Nuclear Instrumentation Power Range Pre-Reactor Startup Channel Operational test	Revision 4, Draft C
1ICP 04.025	Nuclear Instrumentation Intermediate Range Channels Outage Calibration	Revision 2, Draft B

1ICP 04.026	Nuclear Instrumentation Power Range Channels Outage Calibration	Revision 2, Draft B
Quality Assurance Report 20331-001	Wisconsin Electric Purchase Order 4500378286 from United Controls International for Safety-Related Fuses	February 2, 2001

RCE 00-117 Unit 2 Generator Lockout

RCE 00-117 CR 00-4185 (Apparent Cause Determination)	Unit 2 Generator Lockout	December 20, 2000
CR 00-4185	Unit Lockout Causes Reactor Trip	December 20, 2000
LER 301-2000-007-00	Fault Associated with "C" Phase Main Step-Up Transformer Results in Reactor Scram	January 18, 2001
NP 5.3.3, Attachment A	Incident Investigation and Post-Trip Review, Unit 2 Trip December 20, 2000	December 20, 2000
NPM 2001-0360	CARB 01-2001 Effectiveness of Organizational Response to U-2 Lockout	May 15, 2001
NPM 2001-0007	Minutes from January 4, 2001 CARB Meeting	January 5, 2001
NPM 2001-0285	Minutes from the April 10, 2001 CARB Meeting	April 11, 2001
Work Order (WO) 9933797	Inspect and Repair CT Terminations, Main Power Transformer Phase C	May 23, 2001
WO 9933797	Inspect and Repair CT Terminations, Main Power Transformer Phase B	May 23, 2001
WO 9933797	Inspect and Repair CT Terminations, Main Power Transformer Phase A	May 23, 2001
Routine Maintenance Procedure (RMP) 9100-1	Crimp Style Terminations, Splices and Connections	Revision 7
WO 9945368	G-04 (Unit 2 'B' Train Emergency Diesel Generator)	October 12, 2001
WO 9918985	DY-04 (Yellow Instrument Bus 125 Volt Direct Current/120-Volt Alternating Current Inverter)	October 4, 2001

WO 9937139	SI-00825B-O (Refueling Water Storage Tank Outlet to P-15A/B Safety Injection Pump) Operator	September 11, 2001
WO Initiation Tag 179384	X-04 Safeguards Bus Transformer, Unit 1	October 31, 2001
WO Initiation Tag 179383	X-04 Safeguards Bus Transformer, Unit 2	October 31, 2001

RCE 01-005 Unit 2 Generator Lockout and Trip From 100 Percent Power

RCE 01-005 (CR 01-0389)	Unit 2 Generator Lockout and Trip from 100 Percent Power	February 6, 2001
CR 01-0389	Unit 2 Generator Lockout/Reactor Trip	February 7, 2001
LER 301/2001-001-00	Ground Fault Relay Actuation Causes Generator Lockout and Reactor Trip	March 7, 2001
NP 5.3.3, Attachment A	Incident Investigation and Post-Trip Review, Unit 2 Trip February 6, 2001	February 8, 2001
CR 01-0944	Voltage Spike on Relay	March 24, 2001
CR 01-0137	MVAR [Megavolts Ampere Reactive] Affects on Amplitude of 3 <sup>rd</sup> Harmonic	January 15, 2001
Alarm Response Procedure (ARP) C02 E 4-5	Unit 1 or 2 TG-01 [Main Electrical Generator] or X-01 [Electrical Power Output Step-up Transformers] Relay Trouble	Revision 5
CR 01-3317	X-04 Transformers Not Inspected	November 1, 2001
CR 01-3345	Ability to Locate Voltmeter Questioned	November 1, 2001
NPM 2001-0307	Minutes from the April 17, 2001 CARB Meeting	April 18, 2001

RCE 01-041 Unit #2 Manual Trip Due to Decreasing Pump Bay Level

RCE 01-041 (CR 01-2178)	Unit #2 Manual Trip Due to Decreasing Pump Bay Level (Traveling Water Screens Plugged with Large Influx of Small Fish)	June 27, 2001
CR 01-2178	Large Fish Kill Results in Unit 2 Trip	June 28, 2001
LER 301/2001-002-00	Manual Reactor Trip Due to Decreasing Water Level in Circulating Water System	August 17, 2001
NP 5.3.3, Attachment A	Incident Investigation and Post-Trip Review, Unit 2 Trip June 27, 2001	June 29, 2001

NPM 2001-0669	Minutes from the October 2, 2001 CARB Meeting	October 4, 2001
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RCE 01-043 Change in Unit 2 Performance Indicator for Unplanned Scrams per 7000 Critical Hours

RCE 01-0473 (CR 01-2198)	Change in Unit 2 Performance Indicator for Unplanned Scrams Per 7000 Critical hours	June 27, 2001
CR 01-2198	Unit 2 Performance Indicator Change	June 28, 2001
NP 5.2.16	NRC Performance Indicators	Revision 3
NP 5.3.1	Condition Reporting System	Revision 18
NPM 2001-0683	Minutes fro the October 9, 2001 CARB Meeting	October 9, 2001
RCE 00-104 (CR 00-3940)	Common Cause Assessment for Procedure Quality Issues	March 2, 2001
CR 00-3940	Common Cause Assessment of Inadequate Procedures and Work Plans	November 22, 2000
Operating Experience Group Guide 001	Root Cause Evaluation	Revision 6
	List of Active Suppliers (Approved Vendor List)	October 31, 2001