February 23, 2001

Mr. Theodore Sullivan
Vice President - Operations
Entergy Nuclear Northeast
James A. FitzPatrick Nuclear Power Plant
Post Office Box 41
Lycoming, NY 13093

SUBJECT: J. A. FITZPATRICK NUCLEAR POWER PLANT
NRC INSPECTION REPORT 05000333/2001-002

Dear Mr. Sullivan:

On January 26, 2001, the NRC completed a supplemental inspection at the James A. FitzPatrick Nuclear Power Plant. The enclosed report presents the results of this inspection which were discussed with you and other members of your staff on January 26, 2001.

This inspection was an examination of your activities associated with a white performance indicator for unplanned power changes per 7000 critical hours. The performance indicator entered the white band in the second quarter of 2000 and has remained white for the third and fourth quarters of 2000. Our review involved thirteen specific unplanned power changes between July 1999 and September 2000. The inspectors reviewed the individual and collective assessments your staff completed in response to these unplanned power changes and the associated corrective actions.

In general, your common cause evaluation report completed in response to the white performance indicator was of sufficient detail to identify broad causes and appropriate corrective actions. Notwithstanding, we noted that inconsistencies remain in your staff's implementation of the corrective action program that reduce your effectiveness in resolving problems. The inspectors identified instances where your evaluations of specific equipment problems that led to the white performance indicator were of insufficient depth to identify the probable causes and provide corrective actions that have a reasonable assurance of preventing similar equipment problems. Furthermore, the inspectors observed instances where corrective actions were either not completed to the scope intended or were not fully effective in addressing the causes of the problems.

Similar to our assessment, your common cause evaluation report identified that lack of improvement in implementation of your corrective action program is an underlying cause of equipment problems leading to the white performance indicator. The inspectors noted that at the time of the inspection, your staff had several initiatives in progress to strengthen implementation of your corrective action program. The NRC plans to review the effectiveness of these initiatives as part of the annual problem identification and resolution inspection scheduled in April 2001.
In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document

Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/NRC/ADAMS/index.html (The Public Electronic Reading Room).

Sincerely,

/RA/

Wayne D. Lanning, Director
Division of Reactor Safety

Docket No. 05000333
License No.: DPR-59

Enclosure: Supplemental Inspection Report No. 05000333/2001-002

cc w/encl:
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M. Colomb, General Manager, Entergy Nuclear Operations
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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.:	05000333
License No.:	DPR-59
Report No:	05000333/2001-002
Licensee:	Entergy Nuclear Northeast Post Office Box 41 Lycoming, NY 13093
Facility:	James A. FitzPatrick Nuclear Power Plant
Location:	Post Office Box 41 Scriba, New York 13093
Dates:	January 22, 2001 to January 26, 2001
Inspectors:	Mel Gray, Reactor Inspector Michael J. Maley, Reactor Inspector (in training)
Approved by:	David C. Lew, Chief Performance Evaluation Branch Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000333/2001-002, on 01/22/01 - 01/26/01; Entergy Nuclear Northeast, James A. FitzPatrick Nuclear Power Plant. Supplemental inspection of white performance indicator for Unplanned Power Changes.

This report documents a supplemental inspection to review the licensee's evaluations and corrective actions in response to equipment problems that resulted in a white performance indicator for unplanned power changes per 7000 critical hours. The performance indicator entered the white band in the second quarter of 2000 and has remained white for the third and fourth quarters of 2000. The review involved thirteen specific unplanned power changes between July 1999 and September 2000. This inspection was conducted in accordance with NRC Inspection Procedure 95001 and the NRC's Reactor Oversight Process (Attachment 2). The significance of issues is indicated by their color (green, white, yellow, red) and was determined by the Significance Determination Process (SDP).

Cornerstone: Initiating Events

The inspectors concluded that, in general, the licensee's common cause evaluation in response to the white performance indicator was of sufficient detail to identify broad causes and appropriate corrective actions. Notwithstanding, the inspectors noted that inconsistencies remain in the implementation of the corrective action program that reduce the licensee's effectiveness in resolving problems. The inspectors identified instances where evaluations of specific equipment problems that led to the white performance indicator were of insufficient depth to identify the probable causes and provide corrective actions that have a reasonable assurance of preventing similar equipment problems. These evaluations were associated with reactor feedwater pump (RFP) mechanical seals, condenser tubes, RFP turbine speed control mechanisms, and recirculation pump bus breakers. The inspectors also observed instances regarding where corrective actions were not completed to the scope intended by the licensee. Additionally the inspectors identified one instance where the licensee did not initiate corrective actions to address a contributing cause of a RFP pipe leak and one instance where a corrective action regarding the preventive maintenance program scope was not fully effective. This equipment is non-safety related and no violations of NRC requirements were identified. The equipment problems are being re-evaluated by the licensee within their corrective action program.

Report Details

01 Inspection Scope

This supplemental inspection was performed by the NRC to assess the licensee's evaluations and corrective actions completed in response to a white performance indicator (PI) for unplanned power changes per 7000 critical hours. The performance indicator entered the white band in the second quarter of 2000 and has remained white for the third and fourth quarters of 2000. The inspectors reviewed the following thirteen unplanned power changes that occurred between July 1999 and September 2000.

- Down power due to switchyard phase disconnect malfunction, July 4, 1999
- Down power due to condensate pump motor breaker trip, July 7, 1999
- Down power due to leak from reactor feed pump (RFP) piping, July 13, 1999
- Down power due to condenser tube leaks, October 30, 1999
- Down power due to condenser tube leaks, November 4, 1999
- Down power due to reactor feed pump speed oscillations, November 30, 1999
- Down power due to condenser tube leaks, January 17, 2000
- Down power due to automatic run back caused by voltage transient resulting from reactor water cleanup hold pump motor failure, April 8, 2000
- Down power due to RFP mechanical seal failure, August 14, 2000
- Down power due to RFP insulation fire, August 24, 2000
- Down power due to electro-hydraulic control oil leak, August 28, 2000
- Down power due to electro-hydraulic control oil leak, September 27, 2000
- Down power due to breaker tripping resulting in loss of bus supplying reactor recirculation pump, September 30, 2000

The inspectors reviewed the licensee's Deviation/Event Reports (DERs) for each down power condition and the associated corrective action documentation. The inspectors also reviewed the licensee's report, entitled "Common Cause Analysis of Equipment Performance Issues (1993-2000)." The licensee revised and reissued this report in January 2001 to assess the broad causes of equipment problems in recent years that resulted in the white PI for unplanned power changes. The inspectors further reviewed the licensee's initiatives described in a handout the licensee provided to the inspectors at the beginning of the inspection. This handout is referenced in Attachment 1.

02 Evaluation of Inspection Requirements

02.01 Problem Identification

a. Determine that the evaluation identifies who (i.e., licensee, self-revealing, or NRC), and under what conditions the issue was identified.

The equipment problems that resulted in the down power conditions were either self-revealing, detected by operator rounds, or identified by licensee personnel through normally monitored instrumentation. The inspectors determined that the licensee's evaluations identified the personnel involved and the circumstances under which the equipment problems were identified that resulted in each down power condition.

b. Determine that the evaluation documents how long the issue existed, and prior opportunities for identification.

The inspectors determined that the licensee's evaluations documented how long the problems existed that led to each down power condition and the prior opportunities for identification. The licensee determined there were missed opportunities to identify and correct the problems leading to the following down power conditions:

The licensee missed a prior opportunity to identify and correct the cause of the A RFP speed oscillations that resulted in a down power condition in November 1999. During a refueling outage in 1998, licensee personnel replaced the A and B RFP torque bar bushing with a roller bearing via a design equivalency package. The torque bar is part of the linkage that controls RFP speed. During plant startup in 1998, the A RFP speed oscillated. Licensee personnel determined the roller bearing installation inadvertently repositioned the torque bar, causing linkage binding and RFP speed oscillations. At that time licensee personnel visually inspected the B RFP linkage, but did not identify a similar problem that subsequently caused a down power condition in November 1999.

The licensee determined the down power condition resulting from an automatic run back in April 2000 was caused by a voltage transient that actuated a run back relay. The licensee's evaluation identified prior opportunities to correct this condition when two plant run backs in 1998 occurred as a result of run back relay operation due to similar voltage transients.

The licensee's evaluation of a RFP mechanical seal failure in August 2000 and subsequent down power condition determined that DERs initiated in 1994, 1999 and 2000 identified a low flow condition to the RFP mechanical seals. The licensee identified how long this condition existed and opportunities to correct it in their assessment of the potential for common mode seal failure.

The licensee's evaluation of the electro-hydraulic control (EHC) tubing oil leak and subsequent down power condition in September 2000 described a prior opportunity the previous month to identify and correct this condition. In August 2000 the licensee identified an EHC oil leak from a valve connection. Licensee personnel walked down the EHC system to verify there were no other EHC oil leaks and identified that insulation for an extraction steam line adjacent to EHC tubing appeared to be damaged. Licensee personnel initiated a work order to repair the insulation at a future date. However the next month the tubing adjacent to the damaged insulation was identified to be leaking EHC oil which resulted in a down power condition. The licensee's evaluation determined that the EHC oil tubing leak was caused by interference with the extraction steam line insulation. The licensee initiated DER-00-04484 to evaluate the prior opportunity to more closely inspect and identify the degraded tubing.

c. Determine that the evaluation documents the plant specific risk consequences (as applicable) and compliance concerns associated with the issue.

The performance issues that resulted in the white PI for unplanned power changes involve non-safety related, balance of plant equipment. The PI monitors unplanned power changes that, if occurring under different plant conditions, could have challenged safety related systems. For these down power conditions, safety related systems were not challenged and the licensee's individual evaluations did not include specific risk consequence analyses. In response to the risk associated with the white PI, the licensee completed a broader common cause assessment to identify the causes of the equipment problems leading to the white PI. The equipment associated with the down power conditions is non-safety related and is not subject to technical specification requirements; therefore there were no compliance issues.

02.02 Root Cause and Extent of Condition Evaluation

a. Determine that the problem was evaluated using a systematic method(s) to identify root cause(s) and contributing cause(s).

The inspectors concluded the licensee's evaluations of the equipment problems associated with the white PI were performed using a systematic method to identify the causes. For each equipment problem, the licensee performed an equipment failure evaluation (EFE) in accordance with their corrective action program procedure. The elements of an EFE include a failure modes determination, identification of the causes, extent of condition, consideration of the potential for common mode failure, and recommended corrective actions.

The inspectors determined the licensee's common cause assessment applied a failure modes and effects methodology in reverse to identify the causes of continuing equipment problems. In their common cause assessment, the licensee considered 114 equipment problems and categorized them by system, component type, mechanistic failure mode, program area, organizational failure mode and human error failure mode. The number of equipment problems in these categories were statistically analyzed to determine the significant common factors. These common factors were then assessed to identify broad common causes of equipment problems.

b. Determine that the root cause evaluation was conducted to a level of detail commensurate with the significance of the problem.

The inspectors concluded the licensee's common cause assessment was conducted to a level of detail commensurate with the equipment problems that resulted in the white PI for unplanned power changes. The licensee considered 114 equipment problems in detail to identify the common factors and the most probable causes. The licensee concluded that the underlying cause of the equipment problems was lack of improvement in the corrective action program to correct the broad causes of equipment problems in the following areas: inadequate work prioritization, conflicting organizational goals that impact the licensee's ability to evaluate causes of problems, inadequate corrective action and preventive maintenance program design, and inadequate communication.

The inspectors reviewed the evaluations for the individual down power conditions and identified problems with some evaluations that are reflective of the broad causes identified by the common cause assessment. The inspectors determined that the evaluations associated with four of the down power conditions were not conducted in adequate detail commensurate with the problems. The evaluations in these instances were not of adequate detail to identify probable causes of the equipment performance problems and to provide a basis for effective corrective actions.

(1) RFP Mechanical Seal Failure Evaluation

The licensee's evaluation of the B RFP mechanical seal failure in DER-00-3705 concluded that the seal failed as a result of a sudden loss of cooling seal injection flow. The license inspected the seal lines and did not identify blockage. In considering the potential for common mode failures, the licensee indicated that seal injection flow had been identified to be less than that recommended by the seal vendor, especially during plant startup. The inspectors reviewed the licensee's seal replacement work order packages during the last plant outage and determined that mechanics had observed heat damage to the RFP seal faces. The licensee tracked corrective actions for engineering to propose a solution to increase seal water injection flow and discuss improved seal designs with the vendor. The inspectors questioned how increasing seal flow would address the postulated root cause of a sudden loss of seal flow. Additionally the inspectors were informed that the B RFP seals had been in service for 22 months, longer than previous RFP seals.

The inspectors concluded the licensee's evaluation did not consider the potential for the low seal flow condition to result in seal failure after prolonged service. The licensee's evaluation also did not evaluate the adequacy of existing operating procedural guidance during plant startup, operation and removal of RFP from service. Furthermore the licensee's corrective action to increase seal flow was not consistent with the identified root cause of a sudden loss of seal flow. During the inspection the licensee initiated DER-01-00327 to re-evaluate the RFP mechanical seal failure.

(2) Condenser Tubes Leaks Evaluation

The licensee evaluated three down power conditions resulting from leaking condenser tubes in the top periphery tubes of the B2 condenser. The licensee's evaluation in DER-00-2362 concluded that the condenser tube leaks most likely resulted from carbon steel plate lagging or other material internal to the condenser that became dislodged and impacted the tubes. The lagging provides steam impingement shielding of piping in the condenser. The licensee completed corrective actions to plug the leaking condenser tubes. As a preventive measure, the licensee plugged all remaining top periphery tubes in the B2 condenser. During a subsequent plant outage in April 2000, the licensee confirmed the presence of dislodged lagging in the B2 condenser hotwell. To address this condition on a long term basis, the licensee initiated work orders in December 2000 to plug the top periphery condenser tubes in the A1, A2 and B1 condensers during the next refueling outage scheduled in two years.

The inspectors determined that the licensee's evaluation did not assess of effects of missing lagging and the loss of steam impingement protection on the piping in the condenser. Also the licensee's evaluation did not address the potential effects of dislodged lagging on the downstream condensate system. Furthermore the licensee's evaluation did not assess the potential for lagging failures in the A1, A2 and B1 condenser hotwells during the next two years. The inspectors determined that in December 2000 the licensee concluded their initial evaluation did not adequately assess the cause of dislodged lagging. The licensee initiated DER-00-6266 to re-evaluate the problem.

(3) RFP Speed Oscillation Evaluation

The licensee's evaluation of the RFP speed oscillations and subsequent down power condition in DER-99-2768 concluded that the cause of the speed oscillations was binding in the B RFP turbine linkage. The licensee determined that the binding resulted from interference between the RFP torque bar and high pressure control valve lever. The licensee removed this interference and returned the plant to full power. The licensee's evaluation determined the interference was introduced by a design equivalency package installed in 1998 that replaced a bushing in the linkage with a roller bearing. The installation resulted in the inadvertent repositioning of the torque bar such that binding occurred. The licensee previously identified and corrected a similar binding condition on the ARFP.

The inspectors determined that the licensee did not complete the evaluation in adequate detail to identify the cause of the inadvertent repositioning of the torque bar in the linkages of both RFPs. Consequently the licensee did not identify corrective actions to address potential design equivalency package problems or installation issues to prevent recurrence of this type of problem.

(4) Recirculation Pump Bus Evaluation

In DER-00-4527 the licensee evaluated the inadvertent de-energizing of the 10100 power bus and subsequent down power condition. The licensee's evaluation indicated that while personnel were performing post work testing that cycled normally open breaker 10112, normally closed breaker 10102 tripped open on high current and de-energized bus 101000. This resulted in interruption of power to the motor generator supplying the A recirculation pump and a subsequent down power condition. The licensee's evaluation concluded that the cause of the de-energized bus was inadequate procedural guidance. However, proposed procedure changes were not accepted or implemented and the licensee subsequently determined the issue required re-evaluation in greater detail. At the time of the inspection DER-00-5966 tracked re-evaluation of this issue.

c. Determine that the root cause evaluation included a consideration of prior occurrences of the problem and knowledge of prior operating experience.

The inspectors determined that the licensees common cause analysis identified the equipment problems, some of which were repetitive, that resulted in the white PI for unplanned power changes. Additionally the licensee's corrective action program procedure requires that prior occurrences, both plant specific and in the industry, be considered in the equipment failure evaluations. The inspectors determined that the licensee's evaluations of the equipment problems resulting in each down power condition appropriately discussed prior occurrences of the problem and applicable industry operating experience. Section 02.01.b discusses prior occurrences of some of these equipment problems.

d. Determine that the root cause evaluation included consideration of potential common cause(s) and extent of condition of the problem.

The inspectors determined that the licensee's common cause assessment was of sufficient scope to identify common causes of the equipment problems and their extent of condition. The licensee's common cause assessment evaluated 114 significant equipment problems in detail to identify the potential common causes and bound the extent of the problems. The inspectors further determined the licensee's individual evaluations of the equipment problems resulting in the white PI appropriately addressed the potential for common mode failure and the extent of the problem.

02.03 Corrective Actions

a. Determine that appropriate corrective action(s) are specified for each root/contributing cause or that there is an evaluation that no actions are necessary.

The inspectors reviewed the corrective actions identified in the licensee's common cause assessment and the corrective actions identified in the licensee individual evaluations of each equipment problem that resulted in a down power condition. The inspectors determined that, in general, appropriate corrective actions were specified for each root or contributing cause. However, the inspectors identified one instance where a corrective action was not specified for a contributing cause of a RFP pipe leak. Additionally the inspectors identified a corrective action to address the preventive maintenance program scope that was not fully effective.

A. Common Cause Assessment Corrective Actions

The common cause assessment concluded that the underlying cause of the equipment problems was lack of improvement in the corrective action program. As a result the licensee concluded equipment problems continued to occur due the following uncorrected problems: (1) ineffective work prioritization, (2) conflicting organizational goals, (3) inadequate corrective action program and preventive maintenance program design, and (4) inadequate communication. The licensee identified corrective actions in their common cause assessment report to address each of these causes of equipment performance problems. Additionally, the licensee provided the inspectors with information at the beginning of the inspection describing further corrective actions being taken to address the causes of equipment problems. This information is described in the licensee handout referenced in Attachment 1.

The inspectors determined the corrective actions, as described in the common cause assessment report and supplemented with information in the handout referenced in Attachment 1, adequately address each broad cause of equipment problems identified by the licensee in their common cause assessment report. The inspectors review of each common cause and the associated corrective actions is discussed in the following:

(1) Ineffective Work Prioritization

The licensee specified and tracked a corrective action to better identify the prioritization of work activities and provide the necessary management oversight. This corrective action has not been completely implemented since the common cause assessment was initially issued in November 1999. The licensee initiated DER-01-0049 in January 2001 to reassess management oversight and scheduling. The licensee's corrective actions identified in the handout referenced in Attachment 1 describe further work prioritization efforts related to the Top Equipment Issues List and additional work completed during the last refueling outage to address high priority equipment issues.

Inspector Observations

The licensee is reassessing corrective actions to address inadequate work prioritization. Although the licensee continued to develop these corrective actions at the time of the inspection, the inspectors concluded the licensee's corrective actions appear to be appropriate to address the identified root cause.

(2) Conflicting Organizational Goals

The common cause assessment report identified "conflicting organizational goals" as a broad cause of continuing equipment problems. The assessment report clarified that this common cause concerned the licensee's capability to identify underlying causes of equipment failure and corrective actions. In response the licensee developed and issued procedure AP-05.00, "Equipment Performance Process," to formally establish organizational responsibilities for maintaining normal equipment performance. The licensee's handout referenced in Attachment 1 describes the licensee actions to realign engineering to better support the equipment performance process and train personnel in more detailed cause determination techniques. At the time of the inspection the licensee was tracking a corrective action via ACT-00-51418 to address workforce knowledge in the context of personnel turnover required to maintain normal equipment performance.

Inspector Observations

The inspectors concluded the corrective actions appear to be appropriate to address the identified root cause.

(3) Inadequate Corrective Action and Preventive Maintenance Program Design and Lack of Improvement in the Corrective Action Program

At the time of the inspection the licensee tracked corrective actions to establish more effective ownership and monitoring of the corrective action program, corrective maintenance program, and preventive maintenance program. These corrective actions were tracked by ACT-01-55593, ACT-01-55592 and ACT-01-55595 respectively. The licensee has also established a DER screening committee and Corrective Action Review Board (CARB) to provide increased management oversight and monitoring to improve implementation of the corrective action program. Additionally, the handout referenced in Attachment 1 describes the licensee's actions to improve preventive maintenance monitoring and the ongoing realignment of engineering personnel to consolidate responsibility for long term equipment improvement. The handout also identifies that the licensee will implement internal performance indicators to monitor the health of the preventive maintenance, corrective maintenance, and corrective action programs.

The common cause assessment report describes a corrective action to ensure the scope of the preventive maintenance program is adequate. The licensee identified plant equipment with no record of preventive or predictive maintenance tasks performed since initial plant startup. The licensee further identified the equipment in this group whose failure could impact plant operation. As a result of their review the licensee initiated 204 additional periodic maintenance (PM) tasks for this equipment. For each PM task the licensee established an initial base date and periodic frequency. The base date was established considering the last time corrective maintenance was performed on each component. The inspectors reviewed a small sample of the new PM tasks. As a result of inspector questions regarding the base dates in the sample, the licensee determined the base date for recirculation pump seal cavity pressure transmitters and pressure indicators were not supported by corrective maintenance records. The licensee initiated DER-01-0336 to identify and address the extent of condition of this problem.

Inspector Observations

The inspectors concluded, in general, the licensee's corrective actions appear to be appropriate to address the identified root causes. The inspectors identified one instance regarding the PM program scope where the corrective action was not fully effective.

(4) Inadequate Communication

In their common cause assessment report the licensee identified a significant number of equipment problems resulting from communication problems, notably when vendor and contractor staffs were involved or multiple engineering disciplines were required. The licensee tracked a corrective action in ACT-99-45893 to optimize and reward the use of teams for improving equipment performance. Additionally, the licensee's handout referenced in Attachment 1 describes the licensee's realignment of engineering personnel to better address equipment performance issues.

Inspector Observations

The inspectors concluded the licensee's corrective actions appear to be appropriate to address the identified root cause.

B. Individual Equipment Corrective Actions

The inspectors reviewed the licensee's corrective actions for the equipment problems resulting in the individual down power conditions. The inspectors determined that, in general, the corrective actions addressed the causes identified in the licensee's evaluation. However, the inspectors identified the following instance where the licensee did not address a contributing cause of an equipment problem.

The licensee evaluated a feedwater leak from a small bore pipe branch line upstream of the A RFP that resulted in a down power condition in July 1999. The licensee's evaluation concluded the feedwater leak was caused by a defective weld and excessive vibration in the branch line. The excessive vibration was due in part to a power plant up-rate which changed the speed of the A RFP and the vibration frequencies the branch line experienced. However, additional uncontrolled pipe fittings on the branch line contributed to the excessive vibrations in that they shifted the branch natural vibration frequency closer to the A RFP vibration frequencies, thereby increasing the vibration amplitude and stresses in the branch line. The licensee did not include a corrective action to address uncontrolled pipe components on small bore pipe branch connections subject to high vibrations. The licensee initiated DER-01-0340 to address this contributing cause of the July 1999 down power condition.

b. Determine that the corrective actions have been prioritized with consideration of the risk significance and regulatory compliance.

For each down power condition, the inspectors determined the licensee completed corrective actions required to return the plant to full power operation. The inspectors observed that the corrective actions identified by the licensee to address extent of condition issues were generally completed by the next refueling outage in October 2000. Technical specifications were not applicable to the equipment problems for the individual down power conditions and there were no regulatory compliance issues.

c. Determine that a schedule has been established for implementing and completing the corrective actions.

The inspectors determined that the licensee tracked the completion of corrective actions within their corrective action program. However, in some instances the licensee did not implement the corrective actions to the scope intended such that schedule for implementation was inadvertently extended.

The licensee performed the common cause assessment in November 1999 to determine the causes of continuing equipment problems. In response to the white PI for unplanned power changes, the licensee re-evaluated the problems and reissued the report in January 2001. In the revised common cause assessment report the licensee determined that corrective actions to improve work prioritization had not been

implemented to the scope intended by the licensee. In addition the licencee identified five closed corrective actions to address specific equipment problems that had not been fully implemented. The licensee initiated additional tasks to track these corrective actions. The inspectors determined one of these corrective actions was associated with the down power condition in July 1999 for the condensate motor breaker trip. The licensee proposed to perform periodic predictive maintenance tasks to monitor the performance of 4kv motors. However not all of the predictive maintenance tasks had been added to the plant work process database. The licensee initiated DER-00-6166 in December 2000 to ensure this corrective action is completed.

d. Determine that quantitative or qualitative measures of success have been developed for determining the effectiveness of corrective actions to prevent recurrence.

For each down power condition, the licensee tracked actions within their corrective action program to consider the effectiveness of the corrective actions after full implementation. On a broader scope the effectiveness of the licensee's corrective actions to address equipment problems resulting in unplanned power changes will continue to be monitored by the associated PI.

4. OTHER ACTIVITIES

4OA6 Meetings, including Exit

.1 Exit Meeting Summary

On January 26, 2001, the inspectors met with Mr. Sullivan and other members of plant management and presented the inspection results. Mr. L. Doerflein, Chief, Systems Branch, Region I, attended the exit meeting. Licensee management acknowledged the observations presented and did not identify any information discussed as proprietary.

Attachment 1

KEY POINTS OF CONTACT

Licensee
G. Brownell, Licensing Engineer
M. Colomb, General Manager - Plant Operations
J. Cook, Engineering
A. Halliday, Manager - Transition
T. Herrmann, Senior Mechanical Design Engineer
W. O'Malley, General Manager - Operations
D. Ruddy, Manager - Design and Analysis
T. Sullivan, Vice President, Operations
G. Tasick, Regulatory Affairs Manager
A. Zaremba, Director - Safety Assurance

LIST OF ACRONYMS

CFR	Code of Federal Regulations
DER	Deviation/Event Report
EFE	Equipment Failure Evaluation
EHC	Electro-Hydraulic Control
PI	Performance Indicator
PM	Periodic Maintenance
RFP	Reactor Feedwater Pump
SDP	Significance Determination Process

Partial List of Documents Reviewed

"Common Cause Analysis of Equipment Performance issues (1993-2000)," Revision 1, dated January 5, 2001
Handout from Licensee on January 22, 2001, entitled "Equipment Performance - Culture Change."
DER 99-1157, Partial Closure of Switchyard Disconnect
DER-99-1163, Condensate Pump Motor Breaker Trip
DER-99-1199, Down power to Repair Reactor Feedwater Branch Line Leak
DER-99-2362, Condenser Tube Leak
DER-99-2693, RFP Speed Oscillations
DER-00-188, Condenser Tube Leak
DER-00-1301, Recirculation Pump Run back
DER-00-1311, Reactor Water Cleanup Hold Pump Motor Failure
DER-003705, RFP Mechanical Water Seal Failure
DER-00-3887, RFP Bearing Oil Seal Failure
DER-00-3929, EHC Oil Leak
DER-00-4460, EHC Oil Leak
DER-00-4527, Breaker Trip and Loss of power to Recirculation Pump

ATTACHMENT 2

NRC'S REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
•Initiating Events	•Occupational	•Physical Protection
•Mitigating Systems	•Public	
•Barrier Integrity		
•Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC used two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, or RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance.

The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.