April 13, 2000

Mr. Michael J. Colomb
Site Executive Officer
New York Power Authority
James A. FitzPatrick Nuclear Power Plant
Post Office Box 41
Lycoming, New York 13093

Subject: NRC INSPECTION REPORT 05000333/2000-007

Dear Mr. Colomb:

On March 3, 2000, the NRC completed a team inspection of the design and performance capability of the emergency service water (ESW) and reactor protection systems (RPS) at the FitzPatrick nuclear power plant. The preliminary findings were discussed with your staff. The enclosed report presents the results of that inspection. The exit meeting was held with Mr. Doug Lindsey and other members of your staff via telephone discussion on March 16, 2000.

The inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with conditions of your license. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observations of activities, and interviews with personnel. During the inspection, no significant issues or problems were identified with the RPS system.

The team concluded that the ESW system was in a degraded condition based on the trend of lower flow rates to several individual unit coolers. However, the performance of the ESW pumps and coolers along with current lake temperature supported operability of the system. Action plans were in the corrective action program to address ESW pipe fouling in order to restore unit cooler flow rates above minimum design requirements for 85 degree Fahrenheit lake temperature.

The 1998 NRC Engineering team inspection (Inspection Report 50-333/98-05) identified that your Engineering staff was aware of, was tracking, and had evaluated the acceptability of several degraded conditions for various plant systems. In contrast, this team inspection found problems with the ESW system that had not been adequately evaluated nor were the conditions identified and corrected in a timely manner. Additionally, test data that showed degraded conditions were not used to project or forecast the expected level of degradation that could reasonably be expected in the system prior to the next scheduled surveillance test. This appears to represent a reduction in the effectiveness of the engineering and testing functions at the plant in comparison to the previous team inspection findings in 1998.

The NRC identified five issues of low safety significance (Green). These issues have been entered into your corrective action program and are discussed in the summary of findings and in the body of the attached inspection report. These issues were determined to involve violations of NRC requirements, but because of their low safety significance the violations are not cited. If you contest the NCVs identified in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with copies to the Regional Administrator, Region I, the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001, and the NRC Resident Inspector at the FitzPatrick Nuclear Power Plant.

Sincerely,

/RA/

Wayne D. Lanning, Director
Division of Reactor Safety

Enclosure: Inspection Report 05000333/2000-007

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U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No:	05000333
License No.	DPR-59
Report No.	05000333/2000-007
Licensee:	New York Power Authority (NYPA)
Facility:	James A. FitzPatrick Nuclear Power Plant
Location:	Post Office Box 41 Scriba, New York 13093
Dates:	February 14-18, 2000 and February 28 - March 3, 2000
Inspectors:	E. H. Gray, Senior Reactor Engineer, Team Leader, DRS H. Anderson, Engineering Contractor F. Arner, Reactor Engineer, DRS R. Bhatia, Reactor Engineer, DRS R. Fuhrmeister, Senior Reactor Engineer, DRS
Approved by:	Lawrence T. Doerflein, Chief Systems Branch Division of Reactor Safety

SUMMARY OF FINDINGS

FitzPatrick Nuclear Power Plant
NRC Inspection Report 05000333/2000-007

The report includes the results of a team inspection by region based inspectors of the emergency service water (ESW) and reactor protection systems (RPS), and the conduct of evaluations of changes, tests and experiments under the 10CFR 50.59 process.

Mitigating Systems

! GREEN. On February 12, 2000, the licensee determined that documentation was not readily available to demonstrate that the procedural requirements of the Service Water inspection program were being followed. The team noted that there were no inspection sheets available which recorded and evaluated the diesel generator jacket water cooler heat exchanger “as found” condition. These components are not thermal performance tested and calculations of record assume that the design fouling factors are maintained by cleaning. This issue was determined to have low risk significance with regard to the diesel generator jacket water coolers based on existing ESW flow margin and lake temperature. Nonetheless, the failure to implement procedure requirements was the first example of a Non-Cited violation of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings.” (Section 1R21.2, Operation and Maintenance)

! GREEN. The team determined through an independent calculation that the licensee had not identified and followed Administrative Procedure requirements to declare the “F” Crescent Area cooler inoperable due to its effectiveness being below the acceptance criteria for an operable unit cooler. The issue was considered to have low risk significance because four out of five coolers remained operable and therefore operability of the associated emergency core cooling system (ECCS) components was not challenged. The failure to declare the cooler inoperable in accordance with administrative procedure AP 01.04 requirements was the second example of a Non-Cited violation of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings.” (Section 1R21.3, Surveillance Testing)

! GREEN. When as-found flowrates were less than the required minimum design flowrates for the 67UC-16A unit cooler, the procedure required a thermal performance test or an engineering evaluation to be performed for the time period since the last test performance. When as-left flowrates are below minimum design, a thermal performance test and an engineering evaluation were required. There was no indication that these procedural requirements were satisfied during a review of the September 1999 test results. The failure to follow requirements within the quarterly ESW flow test was the third example of a Non-Cited violation of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings.” (Section 1R21.3, Surveillance Testing)

! GREEN. A Non-Cited Violation (NCV) was identified regarding ineffective corrective action associated with the licensee's failure to promptly identify conditions adverse to quality and to take timely corrective actions to address such conditions. Specifically, the licensee's evaluation for a degraded flow condition to the west electric bay cooler, identified in September flow testing, was ineffective as the cooler check valve failed to open in the subsequent December test. This issue was determined to have low risk significance because the east electric bay cooler was operable at the time and only one electric bay cooler is required to receive ESW flow to mitigate a design basis accident. Nonetheless, the failure to identify and correct conditions adverse to quality is a violation of NRC requirements (Section 1R21.3, Surveillance Testing). This was the first example of a Non-Cited Violation in the area of the corrective action program.

! GREEN. A Non-Cited Violation (NCV) was identified regarding ineffective corrective action associated with the licensee's failure to properly process conditions adverse to quality and to take timely corrective actions to address such conditions. Specifically, DER-99-02858 was closed based on the initiation of Maintenance Software Request (MSR) 492 on December 15, 1999. MSRs are an informal mechanism used in the White Plains Corporate Office for tracking database change requests and problems. MSRs are not acted on in accordance with, nor considered as part of, the corrective action program. Therefore, MSRs are not a valid method for tracking /prioritizing corrective actions, nor for closing DERs (Section 40A4.1). This was the second example of a Non-Cited Violation in the area of the corrective action program.

Report Details

1. REACTOR SAFETY

Cornerstone: Mitigating Systems and Barrier Integrity

1R21 Safety System Design and Performance Capability

Introduction

The emergency service water (ESW) and reactor protection systems (RPS), were reviewed using Inspection Procedure 71111, Attachment 21. ESW was selected because it is a risk significant mitigating system which provides cooling water to equipment required for a safe reactor shutdown. RPS was selected because it is a risk significant system that initiates nuclear plant shutdown on input from other plant systems to prevent degradation of fuel clad and pressure barriers.

Emergency service water (ESW) system

.1 Design - Mechanical, Electrical, and Instrumentation and Controls

a. Inspection Scope

The team reviewed the ESW design and licensing basis documents to determine the system and component functional requirements during abnormal and accident conditions. For the documents reviewed, which included mechanical and electrical calculations and analyses, the team verified that the assumptions were appropriate, that proper engineering methods and models were used and that there was an adequate technical basis to support the conclusions. Where possible, the team performed independent calculations to evaluate the document adequacy. The review was performed to determine that: (1) the design basis was in accordance with the licensing commitments and regulatory requirements; (2) the design output documents such as drawings and procurement specifications were correct; and, (3) the installed system and components were tested to verify the design bases were met.

The team reviewed the Updated Final Safety Analysis Report (UFSAR) to establish the design and licensing basis for the ESW and interfacing systems. The piping and instrumentation drawings, the configuration baseline documents and the installed configuration were also reviewed to assess the capability of the system to satisfy the design intent.

b. Observations and Findings

There were no findings identified.

.2 Operations and Maintenance

a. Inspection Scope

The team reviewed a number of activities to verify that the ESW system was installed, operated and maintained consistent with the design and licensing bases. The operational standby readiness and material condition of the ESW system was assessed by conducting system walkdowns and reviewing procedures, operator logs, design and vendor documents, component maintenance history records, and system health reports. The team also interviewed licensed and non-licensed operators and engineers. As part of this review, the team evaluated a sample of licensee-identified problems in the deviation event report (DER) or corrective action system as well as some emergent problems to assess the effectiveness of the licensee’s corrective actions.

b. Observations and Findings

The team requested the inspection data sheets associated with the diesel generator jacket water coolers. The coolers are flow tested but not performance tested with regard to heat exchanger capability. In lieu of performance testing, the licensee personnel perform cleaning and eddy current testing on a four year frequency. Calculations which determine minimum Emergency Service Water (ESW) flow requirements to the coolers, JAF-CALC-SWS-03026, Revision 0, “Emergency Service Water Minimum ESW Flow Requirements For The EDG Jacket Water Coolers With Elevated Lake Temperatures Up To and Including 85 Degrees Fahrenheit,” and JAF-CALC-MULTI-2169, “Allowable Lake Temperature And Flow For EDG Coolers With 20 Tubes Plugged,” assumed that the design fouling factor (0.001333 hr ft ^{2} deg. F/Btu) is maintained by cleaning.

The Service Water Inspection Program administrative procedure, AP 19.12, revision 0, requires the system engineer to maintain and record completed inspection data sheets. The intent of the procedural requirement is to evaluate as-found corrosion damage, silt accumulations and microbiologically induced corrosion. The inspection and evaluation of these conditions are important as fouling layers of only a few thousandths of an inch can cause significant degradation in heat transfer and should be evaluated along with gross fouling and/or blockage conditions. The licensee initiated deviation event report (DER 00-00503) on February 12, 2000, noting that documentation was not readily available to demonstrate that the procedural requirements of the Service Water inspection program were being followed. The team noted that diesel generator surveillance tests were performed routinely in accordance with technical specification requirements and jacket water temperatures were recorded, however, degraded jacket water cooler heat transfer conditions may not be readily apparent as lake temperatures do not approach the limiting condition temperature of 85 degrees until the summer months.

The failure to record and evaluate heat exchanger as-found conditions was considered to have a low risk significance (GREEN) because there was negligible impact to the operability of the system based on existing ESW flow margins being above minimum design requirements and the current lake temperature. Nonetheless, this failure to implement procedure requirements was the first example of a violation of 10 CFR 50,

Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” which states in part: ”Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings.” This violation is considered a non-cited violation (NCV), consistent with Interim Enforcement Policy for pilot plants. **(NCV 05000333/2000007-01)**

.3 Surveillance and Testing

a. Inspection Scope

The inspectors reviewed test procedures and recent performance data to verify that the following components met their design and licensing bases:

- ESW pumps
- System Check valves
- Automatic Actuation Circuitry–ESW start signals on Diesel starting and RBCCW low pressure
- Unit Cooler performance test data/ benchmarked to design conditions

b. Observations and Findings

Unit Cooler Flow/Performance testing

ECCS Crescent Area Coolers

Updated Final Safety Analysis Report Table 9.7-1 gives a summary of ESW flow rates which provide the basis that the required heat removal for safety related equipment will be achieved. The table reflects the minimum design flow rates required at the maximum allowable design lake temperature of 85 degrees Fahrenheit. Although these are the minimum required design basis flow rates to the coolers, the required heat transfer can be met at other than design flow rates based on thermal performance testing.

The team noted that the ESW system was in a degraded condition based on December 1999 test results of the system flow rates. The surveillance testing showed that 7 out of 14 unit coolers in the system could no longer achieve their minimum design basis flows as described in FSAR table 9.7-1. Two of the 5 crescent area coolers in each of the east and west crescent areas had degraded to below the minimum design flow rate of 22 gpm. Since the flow rates had degraded for these coolers, annual thermal performance tests had been performed on the coolers to determine the maximum lake temperature where they would still remain operable.

Administrative Procedure 01.04 revision 20, “Technical specification related requirements, lists, and tables,” provides administrative controls for requirements removed from the technical specifications and final safety analysis report. Section 1.1.1.A.2 states that individual crescent area coolers, (which provide the cooling for the safeguards compartments), are inoperable if less than 50% effective in their ability to remove heat.

The team noted that the ‘F’ cooler had been declared inoperable because of calculated low effectiveness in December 1999. The team went back to the previous test performed in September and independently calculated an effectiveness number. The calculation showed an effectiveness of 0.475 (47.5%), which should have also resulted in the ‘F’ cooler being declared inoperable from September 26, 1999 to December 1, 1999. However, the licensee had not identified the ineffectiveness of the cooler at the time and had not declared the cooler inoperable.

AP 01.04 requires that at least four unit coolers serving ECCS components in the same half of the crescent be operable or all ECCS components in that half of the crescent area shall be considered inoperable for purposes of technical specification 3.5.1, 3.5.B, and 3.5.C, and the reactor shall be placed in a cold condition within 24 hours. To determine the impact of the error the team reviewed whether higher accident heat load requirements per cooler would have still been satisfied (due to four coolers being effective instead of five in the area). The team found that a lake temperature margin of six degrees (between allowable lake temperature and highest lake temperatures recorded) had been thought to exist for the next limiting cooler, ‘K’, in the same area. This margin was available due to the shared heat load being distributed by five coolers instead of four. When factoring in the inoperability of the ‘F’ cooler however, there was minimal margin between the maximum allowable lake temperature and actual lake temperatures achieved last summer. Although the loss of all margin was not realized at the time, the other four coolers would have remained operable because the actual lake temperature did not exceed the most limiting calculated allowable lake temperature associated with these coolers.

This issue was considered to have low risk significance (GREEN) using the Significance Determination Process (SDP) phase 1 evaluation, because with four coolers still operable in the area there was no impact to the operability of the ECCS components served by the ‘F’ cooler. Additionally, the cooler has been mechanically cleaned and performance tested after the December 1999 test failure. Nonetheless, the failure to identify the degraded unit cooler condition during the September test and declare it inoperable in accordance with administrative procedure AP 01.04 requirements was the second example of a violation of 10 CFR 50, Appendix B, Criterion V. This violation is considered a non-cited violation (NCV), consistent with Interim Enforcement Policy for pilot plants. This violation is in the licensee’s corrective action program as DER 00-00793. **(NCV 05000333/2000007-01)**

West Electric Bay Cooler 67UC-16A

Surveillance Procedure ST-8Q,”Testing of the emergency service water system (IST),” revision 22, verified on a quarterly basis that the values assumed in the yearly thermal performance tests for cooler water flow rates were still valid. The licensee’s in-service test (IST) program credits the quarterly test as a full flow exercise of the individual unit cooler check valves. The objective of the IST program in accordance with Section XI of the ASME Code is to evaluate and investigate the possibility of degradation of components and to take corrective action before the components fail.
During the September 1999 quarterly flow test of the west electric bay cooler, which provides cooling to various switchgear loads, the as-found and as-left flow rate to the cooler had dropped to 27 gallons per minute (gpm) which was below the minimum design

basis flow rate requirement of 35 gpm found in Table 10.1 of the surveillance test procedure. Step 10.1.5 of the test acceptance criteria required check valve 46ESW-19A for the 67UC-16A unit cooler to open to allow required accident flow as demonstrated by measured flow rate being greater than or equal to 35 gpm. Although the flow rate was below the acceptance criteria, the licensee did not declare the check valve inoperable at the time. Results from a historical performance test from 1998 were utilized to justify unit cooler operability given the lower flow condition, efficiency of the unit cooler and current lake temperature. The team found this to be a common practice utilized by the licensee when justifying continued operability of unit coolers with degraded flow rates. The evaluation assumed that the decreasing flow was due only to silt or microbiologically influenced corrosion (MIC) buildup and not degradation of the check valve. The licensee's evaluation was ineffective, as the check valve failed to open during the next quarterly surveillance test performed in December 1999. The reliance on previous historical performance test results to bound the degraded flow condition in this case resulted in the licensee not fully understanding or identifying the failure of the check valve. Therefore, appropriate corrective actions to address the degraded check valve had not been taken.

This issue was considered to have low risk significance (GREEN) based on the operability of the other 'East' Electric Bay Cooler. As stated in Nuclear Safety Evaluation, JAF-SE-90-067, only one of the Electric Bay Coolers is required to be supplied by ESW during the limiting DBA. Nonetheless, the failure to identify and correct the degraded check valve condition is a violation of 10 CFR 50 Appendix B, Criterion XVI, "Corrective Action," which requires, in part, that conditions adverse to quality be promptly identified and corrected. The licensee initiated a procedure change request and DER-00-00773 as corrective action to ensure a DER is inititated in the future for any component that fails to meet its as-found flow rate requirements. The procedure change request also proposed a minimum 90 day projection of operability going forward based on the current rate of unit cooler flow degradation observed. This violation is considered a Non-Cited Violation, consistent with the Interim Enforcement Policy for pilot plants. The issues associated with this violation are in the corrective action program as listed above. **(NCV 05000333/2000007-02)**

The team identified a third issue pertaining to the September 1999 ST-8Q surveillance test in relation to the Licensee's failure to follow procedures. The quarterly ST-8Q flow test in September 1999 indicated ESW flow of 27.4 gpm to 67UC-16A, which was less than both the ST-8Q minimum (required) flow of 35 gpm and the target flow of 36.2 gpm. ST-8Q Level 1 acceptance criterion 10.1.1 requires, when the as-found measured flow is less than the required flow rate in Table 10.1 (of ST-8Q, 35 gpm for 67UC-16A), that a thermal performance test or engineering evaluation for the unit cooler be performed for the time period since the last quarterly test performance. When the as-left flow is less than the required flow rate in Table 10.1 (of ST-8Q, 35 gpm for 67UC-16A), Level 1 acceptance criterion 10.1.2 required a thermal performance test and an engineering evaluation looking forward to the next test performance. There was no indication that a look back over the previous test interval was conducted through either a thermal performance test or an engineering evaluation nor that both an engineering evaluation and a thermal performance test were considered in looking forward to the next test interval. This was the third example of a failure to follow procedures. The item was evaluated within the significance determination process as GREEN and is considered a Non-Cited Violation of NRC requirements concerning 10 CFR 50, Appendix B, Criterion V. **(NCV 05000333/2000007-01)**

Reactor protection system (RPS)

.1 Electrical and Instrumentation and Control system Design

a. Inspection Scope

The team reviewed the RPS design and licensing basis documents to determine the system functional requirements during normal and accident conditions. For the documents reviewed, which included the licensee's design basis document (DBD), electrical and control design and logic drawings, applicable instrument setpoint uncertainty, and electrical component voltage drop calculations and protection analyses, the team verified that the assumptions were appropriate, that proper engineering methods and engineering standards were used and that there was an adequate technical basis to support the conclusions. Where possible, the team performed independent calculations to evaluate the document adequacy. Review was performed to determine that: (1) the design basis was in accordance with the licensing commitments and regulatory requirements; (2) the design output documents such as drawings and system calculation and analyses were correct; and, (3) the installed system and components were tested to verify the design bases were met.

The team reviewed the Updated Final Safety Analysis Report (UFSAR) to establish the design and licensing basis for the RPS and three interfacing systems. These were the neutron monitoring, high drywell pressure and main turbine pressure control input and output parameters to the RPS system. The applicable electrical and instrumentation and control drawings, the logic channel configuration documents and the installed configuration were also reviewed to assess the capability of the system to satisfy the design intent.

b. Observations and Findings

There were no findings identified.

.2 Operations and Maintenance

a. Inspection Scope

The team reviewed a number of activities to verify that the RPS system was installed, operated and maintained consistent with the design and licensing bases. The operational standby readiness and material condition of the RPS system was assessed by conducting system walkdowns and reviewing procedures, design and vendor documents, component maintenance history records, and system health reports. The team also interviewed licensed and non-licensed operators, maintenance, system and design engineers. As part of this review, the team evaluated a sample of licensee-identified problems and the industry related issues with RPS control relays and electrical protection power supplies documented in deviation event reports (DERs) and the licensee's corrective actions to assess the effectiveness of the licensee's corrective actions to maintain and keep the system functional.

b. Observations and Findings

There were no findings identified.

.3 Surveillance and Testing

a. Inspection Scope

The inspectors reviewed surveillance test procedures for the RPS system and three interfacing systems (neutron monitoring, high drywell pressure and turbine pressure control). Input and output signals to the RPS system were reviewed to ensure that the RPS system logic and interfacing devices were appropriately calibrated and functionally tested as required by the technical specifications. The team also reviewed recent performance data to verify that the following devices met their design and licensing bases:

- Electrical Protection Power Supplies
- Channel control Logic relays (Agastat and HFA types)
- Rosemount APRM upscale and downscale trip units
- Pressure switches and transmitters of interfacing systems
- Scram discharge valves and backup scram solenoids

b. Observations and Findings

There were no findings identified.

1R02 Changes to License Conditions - the 50.59 process

a. Inspection Scope

The team reviewed changes made to the ESW and RPS systems to verify that the systems met the design and licensing basis in the modified configuration and that the changes did not introduce any unreviewed safety questions. A sample of changes screened out of the 50.59 evaluation process were reviewed to determine the appropriateness of the screening process. Samples of change evaluations and screenings for other systems and components were also examined.

b. Observations and Findings

There were no findings identified.

.4 OTHER ACTIVITIES

4OA1 (IP 71152) Identification and resolution of problems

a. Inspection Scope

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For the emergency service water (ESW) and reactor protection systems (RPS), the inspection team reviewed the activities for identifying, evaluating, and correcting problems which could impact the cornerstone objectives.

b. Observations and Findings

Findings regarding the identification and resolutions of problems were identified and are described in Sections 1R21.2, 1R21.3 and 4OA4.1 of this report.

4OA4 Other

.1 (Closed) Licensee Event Report (LER) 50-333/00-001: missed surveillance requirement due to error in reading the surveillance test schedule. During a review of the Surveillance Test Schedule performed on January 6, 2000, the Shift Manager determined that ST-29C was not performed within the time period required by the Technical Specifications. The missed surveillance was caused by an inconsistency in the way surveillance test frequency requirements were translated from a surveillance test tracking database to a work scheduling database, accompanied by inadequate reviews of the reports generated by these two database programs. This missed surveillance was documented in Deviation/Event Report (DER) 00-00056, issued January 6, 2000.

During subsequent review of the contributing causes to this event, licensee personnel determined that a post-year 2000 anomaly in the work scheduling database program resulted in work requests issued in the year 2000 appearing at the beginning of the printouts used for tracking of surveillance tests, even though an older work request may have an earlier due date. This potential problem was previously identified in DER-99-02858. DER-99-02858 was closed based on the initiation of Maintenance Software Request (MSR) 492 on December 15, 1999. MSRs are an informal mechanism used in the Corporate White Plains Office for tracking database change requests and problems. MSRs are not acted on in accordance with, nor considered as part of, the corrective action program. Therefore, MSRs are not a valid method for tracking/prioritizing corrective actions, nor for closing DERs. DER-00-00752, issued February 29, 2000, documents this inconsistency in the implementation of the corrective action program. This second example of a failure to properly implement the corrective action program is being treated as a non-cited violation in accordance with the enforcement guidance for the pilot inspection program. **(NCV 05000333/2000007-02)**

.2 (Closed) LER 50-333/99-014: non-conservative APRM flow referenced neutron flux scram. This event had no risk implications and is closed.

4OA5 Management Meetings

The licensee representatives were informed of the purpose and scope of the inspection at an entrance meeting conducted on February 14, 2000. The team presented the preliminary inspection findings to Mr. Harry Salmon, Vice President - Engineering and

Project Control, and other members of your staff on March 3, 2000, who acknowledged the findings presented. The concluding exit meeting was conducted by telephone on March 16, 2000, with Mr. D. Lindsey, Plant Manager, and other members of your staff to further discuss the inspection findings. No proprietary information was identified.

LIST OF ACRONYMS USED

ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CFR	Code of Federal Regulations
DER	Deficiency and Event Report
EPA	Electrical Protection Power Supply Assembly
ESW	Emergency Service Water
gpm	gallons per minute
GE	General Electric
HPCI	High Pressure Coolant Injection
IR	Inspection Report
IST	Inservice Testing
LER	Licensee Event Report
MR	Maintenance Rule
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
NYPA	New York Power Authority
PI	Performance Indicator
psia	pounds per square inch absolute
psig	pounds per square inch gauge
RCIC	Reactor Core Isolation Cooling
rpm	revolutions per minute
RPS	Reactor Protection System
SDP	Significance Determination Process
SIL	Service Information Letter
TS	Technical Specification
UPS	Uninterruptable Power Supply
UFSAR	Updated Final Safety Analysis Report

ATTACHMENT 1

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently 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 and assessing 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

- Initiating Events
- Mitigating Systems
- Barrier Integrity
- Emergency Preparedness

Radiation Safety

- Occupational
- Public

Safeguards

- Physical Protection

To monitor these seven cornerstones of safety, the NRC uses 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, and 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. And 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.