



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064**

September 8, 2000

Garry L. Randolph, Vice President and
Chief Nuclear Officer
Union Electric Company
P.O. Box 620
Fulton, Missouri 65251

SUBJECT: CALLAWAY PLANT -- NRC INSPECTION REPORT NO. 50-483/00-12

Dear Mr. Randolph:

This refers to the inspection conducted on July 9 through August 19, 2000, at the Callaway Plant facility. The enclosed report presents the results of this inspection which were discussed with you and other members of your staff on August 11, 18, and 22, 2000.

This 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 the 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.

Based on the results of this inspection, the NRC has identified two issues that were evaluated under the significance determination process as having very low safety significance (green) and which were violations. These violations are being treated as noncited violations, consistent with Section VI.A of the Enforcement Policy. The noncited violations are described in the subject inspection report. If you contest the violations or significance of the noncited violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Callaway Plant.

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Sincerely,

/RA/

William D. Johnson, Chief
Project Branch B
Division of Reactor Projects

Docket No.: 50-483
License No.: NPF-30

Enclosure:
NRC Inspection Report No.
50-483/00-12

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.: 50-483
License No.: NPF-30
Report No.: 50-483/00-12
Licensee: Union Electric Company
Facility: Callaway Plant
Location: Junction Highway CC and Highway O
Fulton, Missouri
Dates: July 9 through August 19, 2000
Inspectors: V. G. Gaddy, Senior Resident Inspector
J. D. Hanna, Resident Inspector
P. A. Goldberg, Reactor Inspector
M. P. Shannon, Senior Health Physicist
Approved By: W. D. Johnson, Chief, Project Branch B

ATTACHMENTS: 1. Supplemental Information
2. NRC's Revised Reactor Oversight Process

SUMMARY OF FINDINGS

Callaway Nuclear Plant NRC Inspection Report 50-483/00-12

IR05000483-00-12; on 7/9-8/19/2000; Union Electric Co., Callaway Plant. Integrated Resident & Regional Report; Safety System Design and Performance Capability, Access Control to Radiologically Significant Areas

The report covers a 6-week period of resident inspection and announced inspections by Region IV inspectors. This inspection identified two green issues, both of which were noncited violations. The significance of issues is indicated by their color (green, white, yellow, red) and was determined by the significance determination process in Inspection Manual Chapter 0609.

Cornerstone: Occupational Radiation Safety

- Green. On May 17, 2000, the licensee identified that a Caution High Radiation Area boundary was moved on the 2000 foot elevation of the radwaste building, and the area was not barricaded for 5 days. The licensee's procedures define a Caution High Radiation Area as an area with dose rates greater than 100 millirems per hour but less than or equal to 1000 millirems per hour at 30 centimeters from a radiation source. Technical Specification 5.7.1.a states, in part, that each entryway to a high radiation area with dose rates not exceeding 1 rem per hour shall be barricaded. The failure to barricade the above area was a violation of Technical Specification 5.7.1.a. This violation is being treated as a noncited violation and is in the licensee's corrective action program as Suggestion-Occurrence-Solution Report 00-1139.

This issue was determined to have very low safety significance because there was no overexposure or substantial potential for an overexposure to occur (Section 2OS1).

Cornerstone: Mitigating Systems

- Green. During a previous inspection, NRC inspectors identified an unresolved item involving a potential violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." The potential violation concerned the licensee's failure to consider auxiliary feedwater system flow demand on the essential service water system flow balance between 1984 and 1998. The licensee stated that they had not included the auxiliary feedwater flow demand on the essential service water flow balance because they had incorrectly credited the nonsafety-related condensate storage tank as the required water supply for the auxiliary feedwater pumps. The licensee performed a past operability review and determined that the essential service water pumps had been capable of supplying adequate flow to the auxiliary feedwater pumps and all other safety-related loads between 1984 and 1998. This issue was determined to be a violation of Criterion III of Appendix B to 10 CFR Part 50. This violation is being treated as noncited violation consistent with Section VI.A of the NRC Enforcement Policy.

The inspectors determined that the issue had very low safety significance because the essential service water pumps had been capable of supplying adequate flow to the auxiliary feedwater pumps and all other safety-related loads between 1984 and 1998 (Section 4OA5).

Report Details

Summary of Plant Status: The plant operated at essentially 100 percent power for the entire report period.

1. **REACTOR SAFETY**

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

The inspectors performed a partial walkdown of containment spray pump Train B while Train A was out of service for maintenance to verify equipment alignment and identify any discrepancies that could impact the function of the system and therefore increase risk. The inspection included a review of component alignment designated in Normal Operating Procedure OTN-EN-00001, "Containment Spray System," Revision 6.

The inspectors also performed a complete walkdown of both trains of the essential service water system. The inspectors inspected this system in order to verify equipment alignment and identify any discrepancies that could impact the function of the system and to verify that the licensee has properly identified and resolved equipment alignment problems. The inspection included a review of component alignment designated in Normal Operating Procedure OTN-EF-00001, "Essential Service Water System," Revision 22.

b. Findings

There were no findings identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

The inspectors reviewed the following areas to determine if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capabilities, and maintained passive fire protection features in good material condition. The areas reviewed were:

- Essential service water pump house rooms
- Ultimate heat sink electrical room Train B
- Ultimate heat sink cooling tower fan room Train B
- Main steam isolation valve rooms

b. Findings

There were no findings identified.

1R06 Flood Protection (71111.06)

a. Inspection Scope

The inspectors verified that the licensee's flooding mitigation plans and equipment were consistent with the licensee's design requirements and risk analysis assumptions. Specifically, the inspectors reviewed those areas in the control building which housed essential service water equipment. In addition, the inspectors reviewed the following documentation:

- Applicable portions of the Final Safety Analysis Report
- Applicable portions of the Individual Plant Examination

The inspectors also discussed flood protection with licensee personnel.

b. Findings

There were no findings identified.

1R11 Licensed Operator Requalification (71111.11)

a. Inspection Scope

On July 25, 2000, the inspectors attended a simulator exercise for operations personnel. The inspectors reviewed the scenario, which included a reactor plant trip, a subsequent loss of all ac power and a loss of the secondary heat sink. The inspectors observed the exercise for proper emergency plan usage, proper emergency declarations, and fidelity of the simulator to the actual control room. The purpose of this inspection was to identify discrepancies in the training and assess licensed operator performance and the evaluator's critique.

b. Findings

There were no findings identified.

1R12 Maintenance Rule Implementation (71111.12)

a. Inspection Scope

The inspectors verified proper implementation of the maintenance rule to assess the effectiveness of the maintenance efforts. Specifically, the inspectors verified structure and component scoping, characterization, safety significance, performance criteria, and the appropriateness of goals and corrective actions. These aspects of the maintenance rule were reviewed for the following components:

- Service water Pump B
- Feeder breaker to essential service water to service water upstream isolation valve (EFHV0039)
- Normal/emergency exhaust radiation monitor (GG-RE-27) radiation detector transmitter

b. Findings

There were no findings identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

Throughout the inspection period, the inspectors reviewed the daily and weekly schedules to determine when risk significant activities were scheduled and to verify how the licensee managed risk. The inspectors discussed selected activities with operations and work control personnel regarding risk evaluations and overall plant configuration control. The inspectors evaluated the effectiveness of risk assessment performed by the licensee for the weeks beginning July 17, 24, and 31, 2000.

b. Findings

There were no findings identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following evaluations to ensure that operability was properly justified and the component or system remained available:

- Turbine-driven auxiliary feedwater pump elevated inboard bearing vibration, Suggestion-Occurrence-Solution Report 00-1569
- Erratic operation of Diesel Generator A while being unloaded, Suggestion-Occurrence-Solution Report 00-1365
- Essential service water Train B from service air compressor check valve (EFV0076), Suggestion-Occurrence-Solution Report 00-0450
- Missing mounting bracket on the Train A safety injection pump room cooler (SGL09A), Suggestion-Occurrence-Solution Report 00-1722

b. Findings

There were no findings identified.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors observed or evaluated the following postmaintenance tests to determine whether they were adequate to verify system operability and functional capabilities:

- Work Document S655727, containment spray Pump A run
- Work Document R206830A, demineralized water to component cooling water surge Tank A level control valve (EGLV0001) retest
- Work Document R570019A, functional run of spent fuel pool cooling pump room cooler

b. Findings

There were no findings identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed or reviewed the following surveillance tests to ensure the systems tested were capable of performing their safety function and to assess their operational readiness. Specifically, the inspectors verified that the following surveillance tests met Technical Specification, ASME Section XI test requirements, Final Safety Analysis Report, and licensee procedural requirements:

- Surveillance Procedure OSP-FC-V0001, "Section XI Auxiliary Feedwater Turbine Valve Operability," Revision 16
- Surveillance Procedure OSP-SA-00003, "Emergency Core Cooling Flow Path Verification and Venting," Revision 14
- Surveillance Procedure OSP-SF-00002, "Control Rod Partial Movement," Revision 12

b. Findings

There were no findings identified.

2. RADIATION SAFETY
Cornerstone: Occupational Radiation Safety

2OS1 Access Controls to Radiologically Significant Areas (71121.01)

.1 Barricading a high radiation area

a. Inspection Scope

Radiation workers and radiation protection personnel were interviewed concerning their radiation protection work requirements. A number of tours of the radiologically controlled area were conducted. The following items were reviewed:

- Quality Assurance Audit AP00-02
- Access controls and surveys of the following three significant high dose work areas in the radiologically controlled area: Spent Fuel Pool; "A" and "B" Residual Heat Removal pump rooms
- Job-In-Progress Reviews. No work was being performed in areas measuring less than 1 rem per hour in which collective worker exposures were estimated to result in greater than 1 person-rem. Therefore, this aspect of the above procedure could not be verified
- Radiation work permits and specified electronic pocket dosimeter set points
- Placement of personnel dosimetry
- Job coverage by radiation protection personnel
- Associated program procedures
- A summary of operational suggestion-occurrence-solution reports written between August 1, 1999, and August 7, 2000. Twenty-four of these suggestion-occurrence-solution reports were reviewed in detail
- Open Item 50-483/9813-01

b. Findings

On May 17, 2000, the licensee wrote Suggestion-Occurrence-Solution Report 00-1139, which documented that a Caution High Radiation Area boundary was moved on the 2000 foot elevation of the radwaste building, and the area was not barricaded for 5 days. The licensee's procedures define a Caution High Radiation Area as an area with dose rates greater than 100 millirems per hour but less than or equal to 1000

millirems per hour at 30 centimeters from a radiation source. From a review of the survey information, the inspectors noted that radiation levels were as high as 180 millirems per hour.

Technical Specification 5.7.1.a states, in part, that each entryway to a high radiation area with dose rates not exceeding 1 rem per hour shall be barricaded. The failure to barricade the above area was a violation of Technical Specification 5.7.1.a. When this violation was processed through the Occupational Radiation Safety Significance Determination Process, it was determined to be a "green" finding and to have very low safety significance because there was no overexposure or substantial potential for an overexposure to occur. This violation is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as Suggestion-Occurrence-Solution Report 00-1139 (50-483/0012-01).

.2 (Closed) Violation 50-483/9813-01: Failure to survey

The inspectors verified the issue was placed into the licensee's corrective action program as Suggestion-Occurrence-Solution Report 98-3207.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification (71151)

.1 Resident Inspection

a. Inspection Scope

The inspectors reviewed the results of surveillance tests, licensee event reports, control room logs, and Technical Specification requirements to verify the accuracy and completeness of data used to calculate and report the following performance indicators:

- Reactor Coolant System Identified Leak Rate
- Scrams With a Loss of Normal Heat Removal

b. Findings

In the second quarter performance indicator data submittal, the licensee reported the February 13, 2000, reactor trip as a scram with a loss of normal heat removal. The inspectors questioned whether the reactor trips that occurred on August 11 and November 26, 1999, also resulted in a loss of normal heat removal. Current guidance contained in NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 0, stated that a loss of normal heat removal path existed when heat could not be removed through the main condenser when one of the following conditions occurred: closure of main steam isolation valves, loss of turbine bypass capabilities (loss of steam dumps), or loss of condenser vacuum or loss of main feedwater. Clarifying notes for this performance indicator stated that momentary operation of power-operated relief

valves were not counted as part of this indicator. Intentional operator actions to control the reactor cooldown rate, such as securing main feedwater or closing main steam isolation valves, also were not counted in this indicator.

Following the August 11 reactor trip, the licensee manually closed all main steam isolation valves. However, the valves were not closed to control the cooldown rate, but were closed to stop the release of steam into the turbine building. The licensee did not consider this occurrence to be a scram with a loss of normal heat removal because closing the main steam isolation valves was a good practice to protect the safety of personnel that may have been in the turbine building during the steam release. The inspectors concluded that this occurrence should have been considered a scram with a loss of normal heat removal because closing the main steam isolation valves met the definition of a scram with a loss of normal heat removal.

Following the November 26 reactor trip, the steam dump valves failed to open in the temperature mode due to an equipment failure. Since the steam dump valves failed to open, the steam generator power-operated relief valves opened for approximately 4 minutes to maintain secondary pressure. Operators manually placed the steam dump valves in the steam pressure mode and the steam dump valves operated as designed. The steam generator power-operated relief valves closed after the steam dump valves opened.

For this reactor trip the licensee stated that they considered the time (approximately 4 minutes) that the steam generator power operated relief valves were open to be momentary, therefore this occurrence was not considered a scram with a loss of normal heat removal. The licensee stated that the steam dumps were always available in the steam pressure mode and the condenser was always available. However, manual action was required to ensure the steam dump valves operated in the steam pressure mode. The inspectors disagreed with the licensee's interpretation of momentary operation. The inspectors concluded that momentary operation meant a short period of time to allow for sudden pressure transients, not continuous operation.

The inspectors reviewed these reactor trips and concluded that they did not meet any of the clarifying notes discussed in the NEI 99-02 guidance document and that they should have been reported as scrams with a loss of normal heat sink.

For clarification, the inspectors submitted a feedback form for performance indicator interpretation on whether operation of the steam generator power-operated relief valves for approximately 4 minutes should be considered momentary and whether intentionally closing the main steam isolation valves for personnel safety reasons were adequate bases for not counting these reactor trips as scrams with a loss of normal heat removal. This issue will remain unresolved pending resolution of the performance indicator interpretation (Unresolved Item 50-583/0012-02).

The licensee had reported this performance indicator as green (less than two occurrences). However, if the August 11 and November 26 trips were counted against

the performance indicator, this would result in three scrams with loss of normal heat removal. This would place this performance indicator into the increased regulatory response band (white).

.2 Health Physics Inspection

a. Inspection Scope

The inspectors reviewed corrective action program records for danger high radiation areas, very high radiation areas, and unplanned exposure occurrences for the past 12 months to confirm that these occurrences were properly recorded as performance indicators. The licensee's procedures defined a Danger High Radiation Area as an area with dose rates greater than 1000 millirems per hour but less than or equal to 500 rads per hour at one meter from a radiation source. Radiologically controlled area exit transactions with exposures greater than 100 millirem for the past 12 months were reviewed, and selected examples were investigated to determine whether they were within the dose projections of the governing radiation work permits.

Additionally, radiological effluent release program corrective action records, licensee event reports, and annual effluent release reports documented during the past 4 quarters were reviewed to determine if any events exceeded the performance indicator thresholds.

b. Findings

No findings were identified.

4OA5 Other

(Closed) Unresolved Item 50-483/0009-02: Failure to consider auxiliary feedwater system demand on the safety-related essential service water system flow balance during accident conditions between 1984 and 1998.

The inspectors performed an in-office review of Suggestion-Occurrence-Solution Report 00-1186, which was initiated on May 22, 2000, as a result of an NRC inspection. This report reviewed the impact of not including the auxiliary feedwater flow demand on the essential service water flow balance between 1984 and 1998. The licensee determined that the auxiliary feedwater flow demand on the essential service water flow balance was not considered because the condensate storage tank was incorrectly credited as the required water supply for the auxiliary feedwater pumps. The licensee conducted a past operability review and concluded that essential service water Pumps A and B had been capable of supplying adequate flow to the auxiliary feedwater pumps and all other safety-related loads between 1984 and 1998. The inspectors considered this failure to consider auxiliary feedwater demand on the essential service water flow balance to be a violation of Criterion III of Appendix B to 10 CFR Part 50, which requires assurance that the design basis is correctly translated into drawings and procedures and that the adequacy of design is verified or checked. This violation is being treated as

a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy (50-483/0012-03). This violation is in the licensee's corrective action system as Suggestion-Occurrence-Solution Report 00-1186.

4OA6 Management Meetings

Exit Meeting Summary

The inspectors presented the inspection results relating to health physics to Mr. G. Randolph, Vice President and Chief Nuclear Officer, and other members of licensee management on August 11, 2000.

The resident inspectors presented their inspection results to Mr. R. Affolter, Plant Manager, and other members of licensee management on August 18, 2000.

The inspectors presented the inspection results relating to followup of Unresolved Item 50-483/0009-02 to Mr. J. Laux and other members of licensee management, by telephone, on August 22, 2000.

The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT 1

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. Affolter, Plant Manager
S. Ewens, Balance of Plant Systems Engineer
R. Farnam, Health Physics Operations Supervisor
J. Hiller, Quality Assurance Regulatory Support Engineer
R. Lamb, Superintendent, Work Control
J. Laux, Manager, Quality Assurance
J. Patterson, Superintendent, Mechanical Work Control
G. Randolph, Vice President and Chief Nuclear Officer
B. Reed, Mechanical Systems Engineer
M. Reidmeyer, Supervisor, Regional Regulatory Affairs
R. Roselius, Superintendent, Radiation Protection and Chemistry
J. Schnack, Supervising Engineer, Quality Assurance Corrective Action
E. Smith, Inservice Inspection Engineer
M. Taylor, Manager, Nuclear Engineering
W. Witt, Assistant Plant Manager

ITEMS OPENED AND CLOSED

Opened

NCV	50-483/0012-01	Failure to barricade a high radiation area (Section 2OS1)
URI	50-483/0012-02	Guidance for classifying two reactor scrams (Section 4OA1)
NCV	50-483/0012-03	Failure to assure that the design basis was correctly translated into drawings and procedures and to verify or check the adequacy of the design (Section 4OA5)

Closed

NCV	50-483/0012-01	Failure to barricade a high radiation area (Section 2OS1)
VIO	50-483/9813-01	Failure to survey (Section 2OS1)
URI	50-483/0009-02	Failure to consider auxiliary feedwater system demand on the safety-related essential service water system flow balance during accident conditions between 1984 and 1998 (Section 4OA5)
NCV	50-483/0012-03	Failure to assure that the design basis was correctly translated into drawings and procedures, and to verify or check the adequacy of the design (Section 4OA5)

LIST OF DOCUMENTS REVIEWED

Equipment Alignment

Checkoff List No. 2, Containment Spray Normal Valve Lineup, Revision 6

Piping and Instrumentation Diagram Essential Service Water System, M-22EF01(Q),
Revision 34

Operability Evaluations

Operations Review Committee Minutes from May 11, 2000
Procedure OSP-AL-V001B, "Train 'B' Auxiliary Feedwater Valve Operability," Revision 18

Licensed Operator Requalification

FR-H.1, "Response to Loss of Secondary Heat Sink," Revision 1B1
ECA-0.0, "Loss of All AC Power," Revision 1B2

Performance Indicator Verification

Results of Surveillance OSP-BB-00009, "RCS Inventory Balance"

Licensee Event Report 1999-03, "Reactor Trip Due to Heater Drain System Pipe Rupture
Caused by Flow Accelerated Corrosion"

Licensee Event Report 1999-08, "Reactor Trip Due to Low Steam Generator Water Level
Resulting From Loss of Power to Feedwater Control Cabinet"

Plant Procedures

APA-ZZ-01000, "Callaway Plant Health Physics Program," Revision 015
HDP-ZZ-01500, "Radiological Posting," Revision 016
HTP-ZZ-06001, "High Radiation/Very High Radiation Area Access," Revision 019

Suggestion-Occurrence-Solution Reports

96-1932, 97-947, 99-87, 99-660, 99-1583, 99-1614, 99-1988, 99-2022, 99-2179, 99-2292,
99-2305, 99-2433, 99-2550, 99-2629, 99-2771, 99-2778, 99-2968, 99-3166, 99-3521, 00-0033,
00-0161, 00-0246, 00-0255, 00-0466, 00-502, 00-636, 00-660, 00-839, 00-0876, 00-0956,
00-0968, 00-1105, 00-1139, 00-1294, 00-1651, 00-1747, and 00-1782

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
<ul style="list-style-type: none">•Initiating Events•Mitigating Systems•Barrier Integrity•Emergency Preparedness	<ul style="list-style-type: none">•Occupational•Public	<ul style="list-style-type: none">•Physical Protection

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>.