

May 30, 2000

Mr. Oliver D. Kingsley  
President, Nuclear Generation Group  
Commonwealth Edison Company  
ATTN: Regulatory Services  
Executive Towers West III  
1400 Opus Place, Suite 500  
Downers Grove, IL 60515

SUBJECT: LASALLE INSPECTION REPORT 50-373/2000004(DRP); 50-374/2000004(DRP)

Dear Mr. Kingsley:

On May 5, 2000, the NRC completed an inspection at your LaSalle County Station. The enclosed report presents the results of that inspection. The results of this inspection were discussed on May 9, 2000, with Mr. C. Pardee and other members of your staff.

This inspection was an examination by the resident inspectors of activities conducted under your license as they relate to reactor safety, verification of performance indicators, event followup, and to compliance with the Commissions rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, the NRC identified one issue that was evaluated under the risk significance determination process and was determined to be of very low safety significance (Green). This issue has been entered into your corrective action program and is discussed in the summary of findings and in the body of the enclosed inspection report. This issue was determined to involve a violation of NRC requirements. The NRC has also determined that one additional violation of NRC requirements occurred, but due to the nature of the issue, it was not evaluated under the significance determination process. Both of these violations are being treated as Non-Cited Violations (NCVs), consistent with Section VI.A.1 of the Enforcement Policy. These NCVs are described in the subject inspection report. If you contest these non-cited violations, 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 III; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the LaSalle facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room and will be available on the NRC Public Electronic Reading Room (PERR) link at the NRC homepage, <http://www.nrc.gov/NRC/ADAMS/index.html>.

Sincerely,

*/RA/*

Melvyn Leach, Chief  
Reactor Projects Branch 2

Docket Nos. 50-373; 50-374  
License Nos. NPF-11; NPF-18

Enclosure: Inspection Report 50-373/2000004(DRP);  
50-374/2000004(DRP)

cc w/encl: D. Helwig, Senior Vice President, Nuclear Services  
C. Crane, Senior Vice President, Nuclear Operations  
H. Stanley, Vice President, Nuclear Operations  
R. Krich, Vice President, Regulatory Services  
DCD - Licensing  
J. Benjamin, Site Vice President  
J. Meister, Station Manager  
F. Spangenberg, Regulatory Assurance Supervisor  
M. Aguilar, Assistant Attorney General  
State Liaison Officer  
Chairman, Illinois Commerce Commission

DOCUMENT NAME: G:\lasa\lasalle2000.04.wpd

To receive a copy of this document, indicate in the box "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	RIII	E	RIII	N	RIII		RIII	
NAME	Riemer/trn		Leach					
DATE	05/30/00		05/30/00					

**OFFICIAL RECORD COPY**

ADAMS Distribution:

AJM

WES

DMS6 (Project Mgr.)

J. Caldwell, RIII w/encl

B. Clayton, RIII w/encl

SRI LaSalle w/encl

DRP w/encl

DRS w/encl

RIII PRR w/encl

PUBLIC IE-01 w/encl

Docket File w/encl

GREENS

RIII\_IRTS

DOCDESK

JRK1

BAH3

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-373, 50-374  
License Nos: NPF-11, NPF-18

Report Nos: 50-373/2000004(DRP); 50-374/2000004(DRP)

Licensee: Commonwealth Edison Company

Facility: LaSalle County Station, Units 1 and 2

Location: 2601 N. 21st Road  
Marseilles, IL 61341

Dates: April 2 - May 5, 2000

Inspectors: E. Duncan, Senior Resident Inspector  
P. Krohn, Resident Inspector

Approved by: Melvyn N. Leach, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

## SUMMARY OF FINDINGS

LaSalle County Station, Units 1 and 2  
NRC Inspection Report 50-373/2000004(DRP); 50-374/2000004(DRP)

The report covers a 5-week period of resident inspection. 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: Mitigating Systems

- Green. Operators failed to adequately consider the potential consequences of an active body-to-bonnet leak on the reactor core isolation cooling system injection valve. As a result, a review of the impact on system operability was not completed until after the resident inspectors identified the leak during a plant tour. In addition, important assumptions which provided a basis for operability were not validated until questioned by the inspectors. Due to high pressure core spray system availability, this issue was screened as Green (very low risk significance) after a Phase 2 Significance Determination Process review. One non-cited violation was identified. (Section 1R13)

### Cross-Cutting Issues: Human Performance

- No Color. Operations personnel failed to report a reactor water cleanup system isolation within 4 hours in accordance with the requirements of 10 CFR 50.72. One non-cited violation was identified. (Section 4OA4)

## Report Details

Summary of Plant Status: Both units operated at or near full power for the entire inspection period.

### **1. REACTOR SAFETY**

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

#### 1R04 Equipment Alignment

##### a. Inspection Scope

The inspectors performed a complete walkdown of accessible portions of the Unit 1 and Unit 2 Residual Heat Removal (RHR) systems to verify system operability. That portion inside containment was not accessible. The inspectors verified the correct valve position of all the valves in the primary system flowpath using the system piping and instrumentation drawings (P&ID) M-96 and RHR system mechanical checklist, and verified breaker alignments using the RHR system electrical checklist. Instrumentation valve configurations and appropriate meter indications were also observed. Lubrication and cooling of major components were verified by direct observation of the components. Proper installation of hangers and supports was periodically observed during the walkdown, and operational status of support systems was verified by direct observation of various parameters. Control room switch positions for the RHR system were observed and abnormal operating procedures were discussed with the operators. The inspectors also evaluated other conditions such as adequacy of housekeeping, the absence of ignition sources, and proper labeling.

The inspectors also performed a partial walkdown of accessible portions of the 1A RHR system to verify system operability during maintenance on the 1B RHR system. That portion inside containment was not accessible.

##### b. Issues and Findings

There were no significant findings identified and documented during this inspection.

#### 1R05 Fire Protection

##### a. Inspection Scope

The inspectors walked down six emergency core cooling system (ECCS) corner rooms on the 694' elevation associated with Unit 1 and Unit 2. The specific fire zones inspected included zones 2H2, 2H3, 2H4, 2H5, 3H2, and 3H5. The inspectors placed emphasis on control of transient combustibles and ignition sources; the material condition, operational lineup, and operational effectiveness of the fire protection systems, equipment, and features; and the material condition and operational status of fire barriers used to prevent fire damage or fire propagation.

In particular, the inspectors verified that all observed transient combustibles were being controlled in accordance with the licensee's administrative control procedures. In addition, the inspectors observed the physical condition of fire detection devices, such as overhead sprinklers, and verified that any observed deficiencies did not impact the operational effectiveness of the system. The inspectors also observed the physical condition of portable fire fighting equipment, such as portable fire extinguishers. The inspectors verified the equipment was located appropriately, and that access to the extinguishers was unobstructed. The inspectors verified that fire hoses were installed at their designated locations and the physical condition of the hoses was satisfactory and access unobstructed. The inspectors inspected and verified the physical condition of passive fire protection features such as fire doors, ventilation system fire dampers, fire barriers, and fire zone penetration seals and verified the items were properly installed and in good physical condition. The residual heat removal, high pressure core spray, and reactor core isolation cooling systems present in the fire zones inspected were risk-significant systems.

b. Issues and Findings

There were no significant findings identified and documented during this inspection.

1R06 Flood Protection Measures

a. Inspection Scope

The inspectors walked down accessible portions of the Unit 1 and Unit 2 suppression pool raceways, ECCS corner rooms, core standby cooling system pump rooms, diesel fuel oil storage tank rooms, and Division III safety-related switchgear rooms to verify that the licensee's flooding mitigation plans and equipment were consistent with design requirements and the risk analysis assumptions. In particular, the inspectors observed the sealing of equipment below the floodline, such as electrical conduits; the presence of holes or unsealed penetrations in floors and walls between flood areas; the adequacy of watertight doors between flood areas; and determined whether sources of potential internal flooding that had not been previously analyzed existed. Portions of the lake screenhouse conduit runs from the plant to risk-significant service water pumps in the lake screenhouse, turbine building, and the radiation waste treatment facilities were also inspected to verify that associated cables and splices were qualified for submergence, and that adequate drainage existed. The inspectors verified that the problems related to flooding included in the licensee's corrective action program were properly identified and prioritized for resolution.

b. Issues and Findings

There were no significant findings identified and documented during this inspection.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors reviewed the licensee implementation of the maintenance rule requirements for the Unit 1 and Unit 2 feedwater and switchgear ventilation systems. The feedwater and switchgear ventilation systems were selected based upon recent performance problems and the risk significance classification of the systems in the maintenance rule program. The inspectors independently verified the licensee's implementation of the maintenance rule for these systems by verifying that these systems were properly scoped within the maintenance rule in accordance with 10 CFR 50.65; that all failed structures, systems, or components (SSCs) were properly categorized and classified as (a)(1) or (a)(2) in accordance with 10 CFR 50.65; the appropriateness of performance criteria for SSCs classified as (a)(2); and the appropriateness of goals and corrective actions for SSCs classified as (a)(1). The inspectors also verified that identified issues were identified at an appropriate threshold and entered in the corrective action program.

b. Issues and Findings

There were no findings identified and documented during this inspection.

1R13 Maintenance Work Prioritization/Emergent Work Activities

a. Inspection Scope

The inspectors reviewed the licensee's evaluation of plant risk, scheduling, configuration control, and performance of planned maintenance associated with the planned and emergent work activities which occurred from April 16 through April 22, 2000, and April 23 through April 29, 2000 and verified that scheduled and emergent work activities were adequately managed. In particular, the inspectors reviewed the licensee's program for conducting maintenance risk safety assessments and verified the licensee's planning, risk management tools, and the assessment and management of online risk. The inspectors also verified that licensee actions to address increased online risk during these periods, such as establishing compensatory actions, minimizing the duration of the activity, obtaining appropriate management approval, and informing appropriate plant staff, were accomplished when online risk was increased due to maintenance on risk-significant SSCs.

The inspectors also reviewed emergent work activities associated with 1E51-F013, "Unit 1 RCIC [Reactor Core Isolation Cooling] Injection Valve," following identification by the inspectors of a body-to-bonnet leak.

b. Issues and Findings

There were no findings identified and documented during this inspection concerning the review of planned and emergent work for the weeks of April 16 and April 23. The following



issues concerning the control of emergent work to address a leak associated with 1E51-F013 were identified.

### Brief Overview

The reactor core isolation cooling (RCIC) system is provided to assure adequate core cooling in the event the reactor is isolated from its primary heat sink in conjunction with a loss of normal feedwater flow to the reactor vessel. The system draws water from the condensate storage tank (preferred) or the suppression pool. The water passes through the turbine driven pump, through RCIC injection valve 1E51-F013, and two testable check valves, 1E51-F065 and 1E51-F066, to the head spray nozzle of the reactor.

### Discussion

On February 29, 2000, during the performance of quarterly RCIC system testing in accordance with LaSalle Operating Surveillance (LOS)-RI-Q5, operators identified a leak associated with 1E51-F013, the Unit 1 RCIC injection valve. The licensee planned to increase the torque on the valve bonnet nuts during the next RCIC maintenance window in May 2000.

On April 10, during equipment alignment verification activities for the 1A RHR system, the inspectors identified that 1E51-F013 was leaking. The inspectors questioned the prioritization of this work activity since piping downstream of the injection valve could potentially be drained which could result in a hydraulic transient when the system was actuated. Following that discussion, the inspectors determined that although system engineering personnel had identified through calculations that up to about 80 feet of RCIC injection piping was potentially voided, a Problem Identification Form (PIF) to document the issue had not been generated, the operability of the RCIC system had not been formally determined, and licensee management had not been informed of the issue. On April 11, the licensee generated PIF L2000-01903 to document the issue and on April 13, the licensee approved Operability Evaluation 00-001 and documented that the system was operable.

On April 14, maintenance personnel tightened the bonnet bolts on 1E51-F013. Valve leakage subsequently increased and the licensee generated PIF L2000-1982 to identify this increased leakage and re-evaluated operability. On April 20, the licensee issued Operability Evaluation 00-001, Revision 1, which incorporated the revised leakage measurements and considered the potential that check valve 1E51-F066 had little or no leakage. In the worst case, the licensee concluded that although the system could perform its safety function, some supports could be subject to potentially significant deformation which could result in plastic deformation of the system to relieve the stresses.

On April 21, the licensee installed Temporary Modification 9900341(which established pressure monitoring equipment) and determined that the pressure downstream of 1E51-F013 was about 1040 pounds per square inch gauge. This demonstrated that check valve 1E51-F066 and 1E51-F065 leaked sufficiently to allow steam condensation in the injection piping to make up for the observed leakage.

## Significance Determination Process

The inspectors assessed this issue using the NRC's Significance Determination Process (SDP). Since the leakage from RCIC injection valve 1E51-F013 had not impacted operability or involved an actual loss of safety function, the issue had very low safety significance. The issue screened out as "Green" during the Phase 1 evaluation of the issue.

Subsequent to the end of the inspection period, the leakage increased to the point that the licensee declared the system inoperable and closed the RCIC turbine trip/throttle valve to ensure that an undesirable RCIC system initiation would not occur. The licensee subsequently installed a temporary modification to ensure that the injection piping remained sufficiently full of water to prevent a water hammer event from occurring. The inspectors reassessed the significance of the new information. Due to high pressure core spray system (HPCS) availability, the issue remained of very low safety significance. The issue screened out as "Green" during the Phase 2 evaluation.

## Requirements

10 CFR 50, Appendix B, Criterion XVI, "Corrective Actions," requires that measures be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, and non-conformances are promptly identified. The failure to identify and address the potential inoperability of the RCIC system due to injection valve leakage in a timely manner was an example where the requirements of 10 CFR 50, Appendix B, Criterion XVI, were not met and was a violation. However, this Severity Level IV violation is being treated as a Non-Cited Violation (50-373/2000004-01(DRP); 50-374/2000004-01(DRP)), consistent with Section VI.A.1 of the NRC Enforcement Policy. This item was entered into the licensee's corrective action program as PIF L2000-01903.

## 1R15 Operability Evaluations

### a. Inspection Scope

The inspectors reviewed the technical adequacy of operability evaluations (OEs) to ensure that the system operability was properly justified and the system remained available, such that no unrecognized increase in risk occurred. The following operability evaluations were reviewed:

- OE 98014, "Degraded Switchgear Ventilation System Dampers"
- OE 00-001, "1E51-F013 Bonnet Leak May Drain RCIC Injection Line"

### b. Issues and Findings

There were no findings identified and documented during this inspection concerning OE 98014. Concerns identified during a review of OE 00-001 are discussed in Section 1R13 of this report.

## 1R16 Operator Workarounds

### a. Inspection Scope

The inspectors reviewed operator workarounds (OWAs) to identify any potential affect on the function of mitigating systems, or the operators' ability to respond to an event and implement abnormal and emergency operating procedures.

The inspectors reviewed the following operator workarounds during the inspection period:

- OWA 316/317, "1E12-F004A/B Valves Inoperable While in Shutdown Cooling." This operator workaround concerned operator actions to manually vent the bonnet of RHR suppression pool suction valve 1(2)E12-F004A/B to address pressure locking concerns and restore the valves to an operable status after placing the respective RHR shutdown cooling loop in operation.
- OWA 208/257, "Fire Protection and Site Assembly Sirens Excessively Loud." This operator workaround concerned excessively loud fire protection and site assemble sirens in the main control room which potentially distracted operators.

### b. Issues and Findings

There were no significant findings identified and documented during this inspection.

## 1R19 Post-Maintenance Testing

### a. Inspection Scope

The inspectors reviewed and observed the post-maintenance testing activities associated with the Unit 2 HPCS pump motor feed breaker. The post-maintenance test was performed in accordance with work request (WR) WR990085522P01 which included closing and then opening the HPCS pump motor breaker. The post-maintenance test was performed following HPCS pump motor feed breaker trip checks performed in accordance with WR 9908552201B and a change of the pump motor bearing oil performed in accordance with WR 99001385501. The HPCS system was risk significant.

The inspectors reviewed and observed the post-maintenance testing activities associated with the Unit 1 RHR system. In particular, the inspectors observed VOTES testing on 1E12-F006A, "1A RHR Shutdown Cooling Suction Valve," following motor-operated valve refurbishment and inspection as well as a signature trace on 1E12-336A, "Unit 1, Division 1, RHR Service Water [RHRSW] Strainer Backwash Valve," following valve replacement. The testing was performed in accordance with WR 95010867 101G and WR 98008282701G. The RHRSW system was risk-significant.

During both post-maintenance testing observations, the inspectors verified that the test was adequate for the scope of the maintenance work which had been performed, and that the testing acceptance criteria was clear and demonstrated operational readiness consistent with the design and licensing basis documents. The inspectors also verified that the impact of the testing had been properly characterized during the pre-job briefing; the test was

performed as written and all testing prerequisites were satisfied; and that the test data was complete, appropriately verified, and met the requirements of the testing procedure. Following the completion of the test, the inspectors verified that the test equipment was removed, and that the equipment was returned to a condition in which it could perform its safety function.

b. Issues and Findings

There were no significant findings identified and documented during this inspection.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors observed surveillance testing on risk-significant equipment and verified that the SSCs selected were capable of performing their intended safety function and that the surveillance tests satisfied the requirements contained in Technical Specifications, the Updated Final Safety Analysis Report, and licensee procedures. During both surveillance testing observations, the inspectors verified that the test was adequate to demonstrate operational readiness consistent with the design and licensing basis documents, and that the testing acceptance criteria were clear. The inspectors also verified that the impact of the testing had been properly characterized during the pre-job briefing; the test was performed as written and all testing prerequisites were satisfied; and that the test data was complete, appropriately verified, and met the requirements of the testing procedure. Following the completion of the test, the inspectors verified that the test equipment was removed, and that the equipment was returned to a condition in which it could perform its safety function.

The following surveillance testing activities were observed:

- LaSalle Operating Procedure (LOS) RH-Q1, "RHR (LPCI) and RHR Service Water Pump and Valve Inservice Test for Operational Conditions 1,2,3,4, and 5 - Attachment 2C," Revision 47
- LOS-DG-M3, "1B(2B) Diesel Generator Operability Test - Attachment 2B," Revision 43
- LOS-DG-Q3, "1B(2B) Diesel Generator Auxiliaries Inservice Test - Attachment A1," Revision 32
- LOS-DG-Q3, "1B(2B) Diesel Generator Auxiliaries Inservice Test - Attachment A5," Revision 32

b. Issues and Findings

There were no significant findings identified and documented during this inspection.

#### 4. OTHER ACTIVITIES

##### 4OA1 Performance Indicator Verification

Cornerstone: Mitigating Systems

###### a. Inspection Scope

The inspectors verified the Reactor Core Isolation Cooling (RCIC) System Unavailability Performance Indicator data reported by the licensee for August 1998 through December 1999 for Unit 1. In particular, the inspectors sampled licensee data sheets which formed a basis for the reported Unit 1 RCIC unavailability and compared that data to control room operating logs to determine if the RCIC system was unavailable for time periods which had not been previously identified and reported.

###### b. Issues and Findings

There were no findings identified and documented during this inspection.

##### 4OA4 Cross-Cutting Issues

Human Performance Problems

###### a. Inspection Scope

The inspectors reviewed the reporting requirements associated with a reactor water clean-up system isolation which occurred on April 26, 2000.

###### b. Issues and Findings

On April 26, 2000, Unit 1 Reactor Water Cleanup (RWCU) inlet isolation valves 1G33-F004 and 1G33-F001 isolated on high flow immediately upon opening during restoration from maintenance. The valves were opened in accordance with LaSalle Operating Procedure (LOP) RT-02, "Reactor Water Cleanup System (RWCU) - Startup and Pump Transfer." Operations personnel determined that the "fill and vent" prerequisite had been met based on the scope of the work and the fact that the out-of-service did not drain the system. The licensee subsequently determined that the fill and vent procedure, LOP-RT-01 should have been performed prior to entering LOP-RT-02. The isolation function of the equipment worked as designed and the valves closed on receipt of a high flow signal during the pressure transient.

Operations personnel reviewed this event to determine if it was reportable in accordance with 10 CFR 50.72 and determined that, since the initiation signal was not valid and RWCU was an "exempted system", the engineered safety feature (ESF) actuation was not reportable. The inspectors reviewed this event and determined that since the ESF actuation which occurred was based on a valid parameter, the event was reportable in accordance with 10 CFR 50.72. The inspectors discussed this issue with licensee management. Subsequently, on May 4, 2000, a late 4-hour non-emergency 10 CFR 50.72

notification was made to the Headquarters Operation Center for the RWCU isolation which occurred on April 26, 2000.

10 CFR 50.72 requires that licensees shall notify the NRC as soon as practicable, and in all cases within 4 hours, of the occurrence of any event or condition that results in the manual or automatic actuation of any engineered safety feature, unless the actuation is invalid. The failure to report within 4 hours a RWCU isolation on April 26, 2000, which was due to a valid signal, was an example where the requirements of 10 CFR 50.72 were not met and was a violation. However, this Severity Level IV violation is being treated as a Non-Cited Violation (50-373/2000004-02(DRP); 50-374/2000004-02(DRP)), consistent with Section VI.A.1 of the NRC Enforcement Policy. This item was entered into the licensee's corrective action program as PIF L2000-02455.

#### 4OA5 Meetings, Including Exit

##### Exit Meeting Summary

The inspectors presented the inspection results to Mr. C. Pardee and other members of licensee management at the conclusion of the inspection on May 9, 2000. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

C. Pardee, Site Vice President  
D. Bost, Site Engineering Manager  
T. Gierich, Work Control Manager  
R. Gilbert, Operations Manager  
F. Gogliotti, Design Engineering Supervisor  
J. Henry, Shift Operations Superintendent  
J. Meister, Station Manager  
J. Pollock, System Engineering Manager  
F. Spangenberg, Regulatory Assurance Manager

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-373/2000004-01; 50-374/2000004-01    NCV    Corrective Actions to Address 1E51-F013 Leakage

50-373/2000004-02; 50-374/2000004-02    NCV    Failure to Make Timely 4-Hour ENS Report

Closed

50-373/2000004-01; 50-374/2000004-01    NCV    Corrective Actions to Address 1E51-F013 Leakage

50-373/2000004-02; 50-374/2000004-02    NCV    Failure to Make Timely 4-Hour ENS Report

Discussed

None

## LIST OF ACRONYMS USED

AR	Action Request
DRP	Division of Reactor Projects
ECCS	Emergency Core Cooling System
ENS	Emergency Notification System
ESF	Engineered Safety Feature
HPCS	High Pressure Core Spray
LOP	LaSalle Operating Procedure
LPCI	Low Pressure Coolant Injection
LOS	LaSalle Operating Surveillance
NCV	Non-Cited Violation
OE	Operability Evaluation
OWA	Operator Workaround
P&ID	Piping and Instrumentation Drawing
PERR	Public Electronic Reading Room
PIF	Problem Identification Form
RCIC	Reactor Core Isolation Cooling
RHR	Residual Heat Removal
RHRSW	Residual Heat Removal Service Water
RWCU	Reactor Water Cleanup
SDP	Significance Determination Process
SSC	Structure, System, or Component
WR	Work Request



## 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>.

