

November 7, 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: QUAD CITIES NUCLEAR POWER STATION - NRC INSPECTION REPORT  
50-254/00-17(DRS)

Dear Mr. Kingsley:

On October 19, 2000, the NRC completed a routine inspection at your Quad Cities Nuclear Power Station, Unit 1. The results were discussed on October 19, 2000, with Mr. Barnes and other members of your staff. The enclosed report presents the results of that inspection.

This inspection was an examination of activities conducted under your license as they relate to the effectiveness of your program for monitoring degradation of vital system boundaries. Specifically, the inspector evaluated the implementation of your inservice inspection program for monitoring degradation of the reactor coolant system boundary, risk significant piping system boundaries, and the containment boundary. Within these areas, the inspection consisted of selected examination of procedures and representative records, and interviews with personnel.

Based on the results of this inspection, there were no findings identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the *Publicly Available Records (PARS) component of NRC's document system (ADAMS)*. *ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html>* (the Public Electronic Reading Room).

Sincerely,

**/RA/**

John M. Jacobson, Chief  
Mechanical Engineering Branch  
Division of Reactor Safety

Docket No. 50-254  
License No. DPR-29

Enclosure: Inspection Report 50-254/00-17(DRS)

See Attached Distribution

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. Dimmette, Jr., Site Vice President  
G. Barnes, Quad Cities Station Manager  
C. Peterson, Regulatory Affairs Manager  
M. Aguilar, Assistant Attorney General  
State Liaison Officer, State of Illinois  
State Liaison Officer, State of Iowa  
Chairman, Illinois Commerce Commission  
W. Leech, Manager of Nuclear  
MidAmerican Energy Company

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DATE	11/07/00	11/07/00	11/07/00		

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State Liaison Officer, State of Illinois  
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Chairman, Illinois Commerce Commission  
W. Leech, Manager of Nuclear  
MidAmerican Energy Company

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-254  
License No: DPR-29

Report No: 50-254/00-17(DRS)

Licensee: Commonwealth Edison Company (ComEd)

Facility: Quad Cities Nuclear Power Station, Unit 1

Location: 22710 206th Avenue North  
Cordova, IL 61242

Dates: October 16 - 19, 2000

Inspectors: Donald Jones, Reactor Inspector  
L. Sage, Illinois Department of Nuclear Safety (IDNS)

Approved by: John M. Jacobson, Chief  
Mechanical Engineering Branch  
Division of Reactor Safety

# 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>.

## SUMMARY OF FINDINGS

IR 05000254-00-17(DRS); on 10/16 - 19/2000; Commonwealth Edison Company, Quad Cities Nuclear Power Station, Unit 1. Inservice Inspection (ISI) report.

This report covers the initial annual baseline inspection of the effectiveness of the licensee's inservice inspection program for monitoring degradation of the reactor coolant system boundary, risk significant piping system boundaries, and the containment boundary. This inspection was conducted by an NRC Region III reactor engineer and an Illinois Department of Nuclear Safety inspector. No findings of significance were identified.

## Report Details

### **1. REACTOR SAFETY**

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

#### 1R08 Inservice Inspection (71111.08)

##### a. Inspection Scope

The inspectors reviewed the implementation of the licensee's inservice inspection program for monitoring degradation of the reactor coolant system boundary, risk significant piping system boundaries, and the containment boundary. Specifically, the inspector observed in-process ultrasonic activities, and reviewed one modification package, including radiographs.

##### b. Findings

No findings of significance were identified.

### **4. OTHER ACTIVITIES**

#### 4OA2 Identification and Resolution of Problems

##### a. Inspection Scope

The inspectors reviewed seven condition reports related to inservice inspection issues to verify the identification of problems at an appropriate threshold. The inspectors also verified that the corrective actions were appropriate.

##### b. Findings

No findings of significance were identified.

#### 4OA6 Management Meetings

##### Exit Meeting Summary

The inspectors presented the inspection results to Mr. Barnes, Station Manager, and other members of licensee management at the exit meeting held on October 19, 2000. The licensee acknowledged the results of the inspection. No proprietary information was identified.



PARTIAL LIST OF PERSONS CONTACTED

Commonwealth Edison (ComEd)

J. Dimmette Jr., Site Vice President  
G. Barnes, Station Manager  
H. Do, Corporate Engineering Programs  
R. May, NDE Level III  
K. Johnson, ISI Coordinator  
C. Peterson, Regulatory Assurance Manager

Illinois Department of Nuclear Safety (IDNS)

R. Ganser, Resident Inspector  
L. Sage, Head, Code Compliance Section

Hartford Steam Boiler Inspection & Insurance Company

D. Oakley, ANII

General Electric (GE)

J. Easton, Site Supervisor  
H. Schlort, NDE Level III

US Nuclear Regulatory Commission (NRC)

C. Miller, SRI  
J. Adams, RI

LIST OF NONDESTRUCTIVE EXAMINATION ACTIVITIES OBSERVED

Ultrasonic Examination (Procedure NDT-C-65, Revision 3) of Weld 02A-S4, Line Number 1-0201A-22"-A

Ultrasonic Examination (Procedure NDT-C-65, Revision 3) of Weld 02AD-S2, Line Number 1-0201A-28"-A

Ultrasonic Examination (General Electric Procedure UT-DRD-300V3/Revision 1) of Weld RPV-THHF, Reactor Head to Flange Weld

## PARTIAL LIST OF DOCUMENTS REVIEWED

The following is a list of licensee documents reviewed during the inspection, including documents prepared by others for the licensee. Inclusion on this list does not imply that NRC inspectors reviewed the documents in their entirety, but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort.

### Reports

Quad Cities Nuclear Power Station-Unit 1 Post Outage (90 Day) Summary Report, Refueling Outage Q1R15, March 1, 1999

### Evaluations

Quad Cities 1 Jet Pump 7/8 Riser Crack Growth Evaluation, December 22, 1998  
Quad Cities 1 Jet Pump Riser Elbow Weld (RS-1) Cracking Evaluation, November 27, 1998

### Procedures

Procedure No. NDT-A, "Radiographic Examination," Revision 21, August 1, 1999

Procedure No. NDT -A1, "Radiographic Acceptance Criteria for Welds, ASME Section III Class 1, Prior to Summer 1977 Addendum," Revision 12, August 1, 1999

Procedure No. NDT-C-65, "Manual Ultrasonic Examination of Austenitic Pipe Welds," Revision 3, May, 2000

Procedure No. NDT-C-1, "Ultrasonic Equipment-Specific Performance Checks," Revision 4, February, 1999

### Modification Package

Work Request No. 990036180-01, Safe Shutdown Makeup Pump Discharge Piping Reroute

### Radiographs

Unit 1 Core Spray System A-Loop, WR Q-07820, Welds  
Unit 1 Core Spray System A-Loop, WR Q-06706, Welds  
Unit 2 Safe Shutdown Makeup Pump Discharge Piping, WR 990036180-01, Welds FW-2, FW-3, FW-4, FW-5,

### Condition Report Nos.

Q2000-00421, Q2000-01651, Q2000-02096, Q2000-02393, Q2000-02913, Q2000-03588, Q2000-03649