February 15, 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 RADIATION SAFETY INSPECTION REPORT
50-254/2000002(DRS); 50-265/2000002(DRS)

Dear Mr. Kingsley:

On February 4, 2000, the NRC completed a routine inspection at your Quad Cities Nuclear Power Station. The results were discussed on February 4, 2000, with Mr. Barnes and other members of your staff. The enclosed report presents the results of that inspection.

The inspection was an examination of activities conducted under your license as they relate to radiation safety and to compliance with the Commission's 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. Specifically, this inspection focused on occupational radiation safety and on the radiological controls implemented during the Unit 2 refueling outage. In addition, we reviewed aspects of your source term reduction, respiratory protection, and fetal protection programs.

Based on the results of this inspection, the NRC did not identify any issues which were categorized as being of risk significance.

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.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

/RA Steven K. Orth ***Acting For/***

Gary L. Shear, Chief
Plant Support Branch

Docket Nos. 50-254; 50-265
License Nos. DPR-29; DPR-30

Enclosure: Inspection Report 50-254/2000002(DRS);
50-265/2000002(DRS)

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

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REGION III

Docket Nos:	50-254; 50-265
License Nos:	DPR-29; DPR-30
Report No:	50-254/2000002(DRS); 50-265/2000002(DRS)
Licensee:	Commonwealth Edison Company (ComEd)
Facility:	Quad Cities Nuclear Power Station, Units 1 and 2
Location:	22710 206th Avenue North Cordova, IL 61242
Dates:	January 31 through February 4, 2000
Inspectors:	John E. House, Senior Radiation Specialist Kenneth J. Lambert, Radiation Specialist Steven K. Orth, Senior Radiation Specialist
Approved by:	Gary L. Shear, Chief, Plant Support Branch Division of Reactor Safety

SUMMARY OF FINDINGS

Quad Cities Nuclear Power Station, Units 1 & 2
NRC Inspection Report 50-254/2000002(DRS); 50-265/2000002(DRS)

The report covers a one-week period of announced inspection by three regional radiation specialists. This inspection focused on occupational radiation safety and included a review of as-low-as-is-reasonably-achievable (ALARA) controls for the ongoing Unit 2 refueling outage, the respiratory protection program, dose controls for declared pregnant workers, source term reduction, and problem identification and resolution.

RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

- There were no inspection findings identified or documented.

Report Details

2. RADIATION SAFETY

Occupational Radiation Safety (OS)

2OS2 As-Low-As-Is-Reasonably-Achievable (ALARA) Planning and Controls

.1 Review of Radiologically Significant Work Activities

a. Inspection Scope

The inspectors reviewed the licensee's radiological controls for the following radiologically significant work activities:

- Unit 2 Refueling Floor Activities;
- Scaffold Erection and Insulation Removal for the Repair of a Unit 1 Extraction Steam Line;
- Underwater Coating Repairs/Inspection within the Unit 2 Torus;
- Repairs on Check Valve 59A;
- Transport of High Radiation Trash; and
- Radiography Activities in the Unit 2 Turbine Building.

As part of this inspection, the inspectors reviewed ALARA plans and radiation work permits, observed work activities, and attended pre-job briefings. The inspectors also attended post job critiques for the following activities:

- Scaffolding Erection/Removal in Support of Inservice Inspections (ISI) (within the Unit 2 drywell) and
- Control Rod Drive Replacement Activities.

b. Observations and Findings

There were no findings identified and documented during this inspection.

.2 Radiation Dose Controls and Trending

a. Inspection Scope

The inspectors reviewed the licensee's dose goals and dose trending for the ongoing Unit 2 refueling outage. The inspectors also interviewed representatives of the maintenance and construction staffs to determine their level of involvement in dose control and tracking.

b. Observations and Findings

The licensee had lowered its original outage dose goal from 208 rem to 170 rem, as a result of notably lower radiation dose rates found in the Unit 2 drywell and on the Unit 2

turbine deck. As of midnight on February 3, 2000, outage dose was about 115 rem with about 75 percent of the work completed. Based on the accumulated exposure, the licensee anticipated that its 170 rem dose goal would be achieved.

.3 Source Term Reduction

a. Inspection Scope

The inspectors reviewed the status of the licensee's source term reduction program, which included hot spot tracking/reduction, cobalt reduction, and chemistry controls. The inspectors also performed surveys within the radiologically controlled area to verify the accuracy of the licensee's records/surveys of identified hot spots and to identify any other significant unidentified sources of radiation exposure.

b. Observations and Findings

There were no findings identified and documented during this inspection.

.4 Declared Pregnant Workers

a. Inspection Scope

The inspectors reviewed the controls implemented by the licensee for the four individuals who voluntarily declared their pregnancies within the last 18 months. Specifically, the inspectors reviewed the licensee's adherence to the requirements contained in 10 CFR 20.1208 and reviewed the licensee's evaluation of the dose to the individuals' embryos.

b. Observations and Findings

In accordance with the licensee's program, the four declared pregnant workers chose to work outside of the radiologically protected area. Consequently, the licensee assigned no radiation dose to the individuals' embryos.

.5 Respiratory Protection

a. Inspection Scope

The inspectors reviewed the status and surveillance records for self contained breathing apparatus located in various areas within the site. In addition, the inspectors verified that applicable emergency response and control room personnel were properly trained and qualified in their use.

b. Observations and Findings

There were no findings identified and documented during this inspection.

2OS4 Radiation Worker Performance

a. Inspection Scope

The inspectors observed radiation workers performing the activities described in Section 2OS2.1 and evaluated their awareness of radiological conditions and their implementation of applicable radiological controls.

b. Observations and Findings

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

4. OTHER ACTIVITIES (OA)

4OA1 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed the licensee's self assessments, audits, and problem identification forms concerning the ALARA program and radiological dose control. The inspectors also reviewed ALARA in progress reviews to evaluate the staff's critiques of ALARA performance.

b. Observations and Findings

The inspectors found that the staff was effectively using the corrective action system to identify and correct issues within the ALARA program.

4OA5 Management Meetings

The inspectors presented the inspection results to Mr. Barnes and other members of licensee management at the conclusion of the inspection on February 4, 2000. The licensee acknowledged the findings presented. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

E. Anderson, Radiation Protection Manager
D. Barker, Lead Technical Health Physicist
G. Barnes, Station Manager
K. Bethard, Regulatory Assurance
R. Chrzanowski, Nuclear Oversight Manager
T. Hanley, Operations Support Manager
W. Israel, Nuclear Oversight
K. Ohr, ALARA Coordinator
M. Perito, Maintenance Manager
C. Peterson, Regulatory Assurance Manager
D. Tubbs, Mid America Energy

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LIST OF DRAFT BASELINE INSPECTION PROCEDURES PERFORMED

The following inspectable-area procedures were used to perform inspections during the report period. Documented findings are contained in the body of the report.

Inspection Procedure		Report
Number	Title	Section
71121-02	ALARA Planning and Controls	2OS2
71121-02	Identification and Resolution of Problems	4OA1
(none)	Management Meetings	4OA5

LIST OF ACRONYMS USED

ALARA	As-Low-As-Is-Reasonably-Achievable
CFR	Code of Federal Regulations
ISI	Inservice Inspection
OS	Occupational Radiation Safety

LIST OF DOCUMENTS REVIEWED

Assessments and Audits

Focus Area Assessment: "ALARA - Selected Areas," performed December 6 - 22, 1999;
NOA-04-99-001, "Plant Support Corrective Actions;"
NOA-04-99-003, "Exposure Control, Source Term Reduction, Internal Dose Control;"
NOA-04-99-005, "Organization and Administration, Qualifications, Instrumentation, and Contractor Control;"
NOA-04-99-016, "Maintenance Work Practices and Qualifications of Personnel;"
NOA-04-99-045, "Exposure Control;" and
NOA-04-99-PS07, "Occupational Exposure."

Miscellaneous

"1999 Source Term Reduction Plan: Quad Cities Station."

Problem Identification Forms

Q1999-02480, Q1999-02484, Q1999-02523, Q1999-02581, Q1999-03000, Q1999-03382, Q1999-03418, Q1999-03431, Q1999-03561, Q1999-03565, Q1999-03604, Q1999-03606, Q1999-03680, Q1999-03687, Q1999-03779, Q1999-04136, Q1999-04142, Q1999-04161, Q1999-04242, Q1999-04269, Q1999-04386, Q1999-04442, Q2000-00041, Q2000-00072, Q2000-00089, Q2000-00130, Q2000-00243, Q2000-00444, Q2000-00458, and Q2000-00563.

Procedures

QCAP 0600-06 (Revision 8), "Radiation Work Permit Program;"
QCAP 0600-07 (Revision 4), "Administration of the Radiation Protection Aspects of Quad Cities' Fetal Protection and Postnatal Programs;"
QCAP 0630-06 (Revision 5), "Exposure Authorization & Control;"
QCRP 5300-01 (Revision 8), "ALARA Action Reviews;"
QCRP 5500-01 (Revision 7), "Respiratory Protection Program Administrative Guide;"
QCRP 5510-02 (Revision 4), "Care & Maintenance of Respiratory Equipment;" and
QCRP 5510-21 (Revision 10), "Maintenance and Inspection of the MSA Self-Contained Breathing Apparatus (SCBA)."

Radiation Work Permits and Associated ALARA Action Reviews

RWP No. 003101 (Revision 1), "U2 Torus: Desludge Support Activities (Q2R15);"
RWP No. 003102 (Revision 0), "U2 Torus: Diving Activities (Q2R15);" and
RWP No. 003177 (Revision 0), "U1 Extraction Steam Pipeway: Measure/Install Furmanite Clamp."

NRC's REVISED REACTOR OVERSIGHT PROCESS

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

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

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

To monitor these seven cornerstones of safety, the NRC 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 little effect on safety. WHITE findings indicate issues with some increased importance to safety, which may require additional NRC inspections. YELLOW findings are more serious issues with an even higher potential to effect safety and would require the NRC to take additional actions. RED findings represent an unacceptable loss of safety margin and would result in the NRC taking significant actions that could include ordering the plant to shut down.

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 incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. The color for an indicator corresponds to levels of performance that may result in increased NRC oversight (WHITE), performance that results in definitive, required action by the NRC (YELLOW), and performance that is unacceptable but still provides adequate protection to public health and safety (RED). GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections.

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. As a licensee's safety performance degrades, the

NRC will take more and increasingly significant action, as described in the matrix. 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.

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