NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY

Commonwealth Edison Company
Quad Cities Nuclear Power Station

Docket Nos. 50-254; 50-265
License Nos. DPR-29; DPR-30
EA 97-466

During an NRC inspection conducted August 21 through September 12, 1997, violations of NRC requirements were identified. In accordance with NUREG 1600, "General Statement of Policy and Procedure for NRC Enforcement Actions", the NRC proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalty are set forth below:

A. 10 CFR 50.65(a)(1) requires, in part, the holders of an operating license shall monitor the performance or condition of structures, systems or components (SSCs) within the scope of the monitoring program, as defined in 10 CFR 50.65(b), against licensee-established goals, in a manner sufficient to provide reasonable assurance that such SSCs are capable of fulfilling their intended functions. Such goals shall be established commensurate with safety and, where practical, take into account industry-wide operating experience. When the performance or condition of an SSC does not meet established goals, appropriate corrective action shall be taken.

1. Contrary to the above, between April 10, 1997, through August 7, 1997, the licensee failed to perform any monitoring and failed to establish any goals for the containment atmospheric monitoring system although the system was classified as an SSC within the scope of the monitoring program on April 10, 1997. The containment atmospheric monitoring system is used in the Emergency Operating Procedures. (01013)

2. Contrary to the above, as of September 12, 1997, the licensee had failed to establish goals commensurate with safety for the station blackout diesel generators, a system within the scope of the monitoring program. Specifically, a technically inadequate performance goal of 90 percent reliability was established. The performance goal was inadequate because the licensee did not take into account industry-wide operating experience, which was practical due to the known industry standard diesel generator program reliability of 95 percent. (01023)

3. Contrary to the above, between July 10, 1996, and August 20, 1997, the licensee failed to perform any monitoring and failed to establish any goals for the residual heat removal/residual heat removal service water systems although the systems were classified as within the scope of the monitoring program on July 10, 1996. The residual heat removal/residual heat removal service water systems are required to mitigate the consequences of an accident or transient. (01033)

B. 10 CFR 50.65(a)(1) requires, in part, the holders of an operating license shall monitor the performance or condition of SSCs within the scope of the monitoring program, as defined in 10 CFR 50.65(b), against licensee-established goals in a manner sufficient to provide reasonable assurance that such SSCs are capable of fulfilling their intended functions. Such goals shall be established commensurate with safety. When the performance or condition of an SSC does not meet established goals, appropriate corrective action shall be taken.

10 CFR 50.65(a)(2) requires, in part, that monitoring as specified in 10 CFR 50.65(a)(1) is not required where it has been demonstrated that the performance or condition of an SSC is being effectively controlled through the performance of appropriate preventive maintenance, such that the SSC remains capable of performing its intended function.

Contrary to 10 CFR 50.65(a)(2), as of July 10, 1996, the time that the licensee elected to not monitor the performance or condition of certain SSCs against established goals pursuant to the requirements of Section (a)(1), the licensee failed to demonstrate that the performance or condition of SSCs within the scope of 10 CFR 50.65 had been effectively controlled by performing appropriate preventive maintenance, as evidenced by the following examples, each of which constitutes a separate violation:

1. The licensee failed to adequately demonstrate that the performance or condition of the pressure boundary function of the nuclear boiler instrumentation, source range monitor drive control, recirculation, standby liquid control, reactor core isolation cooling, and high pressure coolant injection systems had been effectively controlled by performing appropriate preventive maintenance in accordance with the requirements of 10 CFR 50.65(a)(2). Specifically, the measures used in the demonstration for these system functions included an inappropriate reliability measure that allowed repetitive maintenance preventable functional failures in the form of pressure boundary leakage. Such a reliability measure is unacceptable because it validates preventive maintenance despite through-wall leakage. The licensee also failed to include an unavailability measure and employed a condition monitoring measure of no through-wall leakage. Such a conditioning monitoring measure is unacceptable because it cannot prevent a failure. As a result, it was not demonstrated that effective preventive maintenance ensured that the pressure boundary function remained capable of performing as required. (01043)

2. The licensee failed to adequately demonstrate that the performance or condition of functions of the 4160 volt switchgear crosstie, 480 volt transformer, 480 volt switchgear, and the 250 volt DC system had been effectively controlled by performing appropriate preventive maintenance in accordance with the requirements of 10 CFR 50.65(a)(2). Specifically, the measures established for these functions in the demonstration allowed multiple failures before the licensee concluded that the performance or condition had not been effectively controlled. Such a reliability measure is unacceptable because it validates preventive maintenance despite multiple failures. As a result, it was not demonstrated that effective preventive maintenance ensured that these functions remained capable of performing as required. (01053)

3. The licensee failed to adequately demonstrate that the performance or condition of functions of the rod positioning, process computer, and 120 volt AC computer uninterruptable power supply systems had been effectively controlled by performing appropriate preventive maintenance in accordance with the requirements of 10 CFR 50.65(a)(2). Specifically, the licensee's basis for placing these SSC functions under the requirements of 10 CFR 50.65 (a)(2) was

inadequate because plant level measures were used in assessing preventive maintenance. Failures of these SSCs would not necessarily result in unplanned scrams, safety system actuations, or an unplanned capability loss factor. These plant level measures were thus inadequate to determine whether there were maintenance preventable functional failures of these functions. (01063)

4. The licensee failed to adequately demonstrate that the performance or condition of functions of the nitrogen system had been effectively controlled by performing appropriate preventive maintenance in accordance with the requirements of 10 CFR 50.65(a)(2). Specifically, the licensee failed to determine in the demonstration if the nitrogen system functions were maintained. (01073)

5. The licensee failed to adequately demonstrate that the performance or condition of functions of the internal flood protection, automatic depressurization, and standby gas treatment systems had been effectively controlled by performing appropriate preventive maintenance in accordance with the requirements of 10 CFR 50.65 (a)(2). Specifically, the licensee used inadequate measures in the demonstration to evaluate the effectiveness of preventive maintenance on these functions in that only unplanned limiting condition for operation time was specified as an unavailability performance measure for these functions. As such, planned unavailability was not considered even though system functions during these times were unable to perform as required. (01083)

6. The licensee failed to adequately demonstrate the performance or condition of functions of the 480 volt transformers and switchgear, reactor building heating, ventilation, and air conditioning, fire protection alternate water supply to a reactor pressure vessel, 4160 volt switchgear, and 345kV switchyard had been effectively controlled by performing appropriate preventive maintenance in accordance with the requirements of 10 CFR 50.65(a)(2). Specifically, the licensee used a reliability measure, but no availability measure in the demonstration. Reliability and availability measures are both necessary to demonstrate that preventive maintenance had been effective to ensure that system functions will perform as required. (01093)

7. The licensee failed to adequately demonstrate that the performance or condition of functions of the 125 Volt DC, and 250 Volt DC systems had been effectively controlled by performing appropriate preventive maintenance in accordance with the requirements of 10 CFR 50.65(a)(2). Specifically, the licensees basis for placing the 125 V and 250 V DC electrical systems under the requirements of section (a)(2) was an unavailability performance measure that effectively allowed battery chargers to be out of service and unable to perform their intended functions for sixty six percent of the time. Therefore, the licensee's basis for placing these functions under the requirements of section (a)(2) was inadequate because it allowed an excessive unavailability during which time these SSCs were unable to perform their intended functions. (01103)

C. 10 CFR 50.65(a)(1) requires, in part, the holders of an operating license shall monitor the performance or condition of SSCs within the scope of the monitoring program as defined in 10 CFR 50.65(b) against licensee-established goals, in a manner sufficient to provide reasonable assurance that such SSCs are capable of fulfilling their intended functions. Such goals shall be established commensurate with safety. When the performance or condition of an SSC does not meet established goals, appropriate corrective action shall be taken.

10 CFR 50.65(a)(2) requires, in part, that monitoring as specified in 10 CFR 50.65 (a)(1) is not required where it has been demonstrated that the performance or condition of an SSC is being effectively controlled by performing appropriate preventive maintenance, such that the SSC remains capable of performing its intended function.

Contrary to the above, the licensee elected not to monitor the performance or condition of certain SSCs within the scope of the Maintenance Rule in accordance with 10 CFR 50.65(a)(1) when preventive maintenance failed to assure that these SSCs remained capable of performing their intended function, as evidenced by the following examples, each of which constitutes a separate violation:

1. Between July 10, 1996 and April 10, 1997, the licensee elected not to monitor the performance or condition of functions of the emergency diesel generators against established goals pursuant to the requirements of 10 CFR 50.65 (a)(1). However, the licensee failed to adequately demonstrate that the performance or condition of these functions was being effectively controlled by performing appropriate preventive maintenance. Specifically, the licensee's demonstration of effective preventive maintenance failed to consider maintenance preventable functional failures which occurred prior to July 10, 1996. (01113)

2. Between July 10, 1996 and August 22, 1997, the licensee elected not to monitor the performance or condition of certain functions of the control rod drive hydraulic control unit accumulator No. 115 check valves, shutdown cooling permissive pressures switches, and the 480 volt AC breaker for motor operated valve 1-1001-26B against established goals pursuant to the requirements of Section (a)(1). However, the licensee failed to adequately demonstrate that the performance or condition of these functions was being effectively controlled by performing appropriate preventive maintenance. Specifically, the licensee's demonstration of effective preventive maintenance failed to consider maintenance preventable functional failures which occurred prior to July 10, 1996. (01123)

3. Between July 10, 1996 and September 12, 1997, the licensee elected not to monitor the performance or condition of the functions of source range, intermediate range, local power range, and average power range neutron monitoring systems against established goals pursuant to the requirements of Section (a)(1). However, the licensee failed to demonstrate that the performance or condition of these functions was being effectively controlled by performing appropriate preventive maintenance. Specifically, the licensee's demonstration of effective preventive maintenance failed to consider the maintenance preventable functional failures of electronic cards required for the performance of these functions that occurred prior to July 10, 1996. (01133)

D. 10 CFR 50.65(a)(1) requires, in part, the holders of an operating license shall monitor the performance or condition of SSCs within the scope of the monitoring program as defined in 10 CFR 50.65(b) against licensee-established goals, in a manner sufficient to provide reasonable assurance that such SSCs are capable of fulfilling their intended functions. Such goals shall be established commensurate with safety. When the performance or condition of an SSC does not meet established goals, appropriate corrective action shall be taken.

10 CFR 50.65(a)(2) requires, in part, that monitoring as specified in 10 CFR 50.65 (a)(1) is not required where it has been demonstrated that the performance or condition of an SSC is being effectively controlled by performing appropriate preventive maintenance, such that the SSC remains capable of performing its intended function.

Contrary to the above, the licensee permitted certain SSCs within the scope of the Maintenance Rule to remain under 10 CFR 50.65(a)(2) when preventive maintenance failed to assure that these SSCs remained capable of performing their intended function, as evidenced by the following examples, each of which constitutes a separate violation:

1. On July 10, 1996, the licensee elected to place the containment atmospheric monitoring system under Section 50.65(a)(2). Following a maintenance preventable functional failure, which occurred on November 22, 1996, the licensee incorrectly allowed this system to remain under 10 CFR 50.65(a)(2). The maintenance preventable functional failure demonstrated that the preventive maintenance being performed on this system was not appropriate in that it failed to assure that the system remained capable of performing its intended function. The system should have been placed under 10 CFR 50.65(a)(1) following the failure. (01143)

2. On July 10, 1996, the licensee elected to place the scram discharge volume transmitter under 10 CFR 50.65(a)(2). Following a maintenance preventable functional failure, which occurred on April 14, 1997, the licensee incorrectly allowed this transmitter to remain under 10 CFR 50.65(a)(2). The maintenance preventable functional failure demonstrated that the preventive maintenance being performed on this transmitter was not appropriate in that it failed to assure that the transmitter remained capable of performing its intended function. The transmitter should have been placed under 10 CFR 50.65(a)(1) following the failure. (01153)

E. 10 CFR 50.65(a)(1) requires, in part, that the holders of an operating license shall monitor the performance or condition of SSCs within the scope of the rule as defined by 10 CFR 50.65(b) against licensee-established goals, in a manner sufficient to provide reasonable assurance that such SSCs are capable of fulfilling their intended functions. Such goals shall be established commensurate with safety. When the performance or condition of an SSC does not meet established goals, appropriate corrective action shall be taken.

10 CFR 50.65(b)(1) requires, in part, that the holders of an operating license shall include within the scope of the monitoring program specified in 10 CFR 50.65(a)(1), safety-related structures, systems, or components that are relied upon to remain functional during and following design basis events to ensure the integrity of the reactor coolant pressure boundary, the capability to shut down the reactor and maintain it in a safe shutdown condition, and the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposure comparable to the 10 CFR, Part 100 guidelines. The scope shall also include non-safety related structures, systems, or components that are relied upon to mitigate accidents or transients, or are used in the plant emergency operating procedures, or whose failure could prevent safety-related structures, systems, and components from fulfilling their safety-related function, or whose failure could cause a reactor scram or actuation of a safety-related system.

1. Contrary to the above, as of September 12, 1997, the licensee had failed to identify and include the automatic trip functions of the safety-related high pressure coolant injection pump turbine in the scope of the Maintenance Rule program. (01163)

2. Contrary to the above, as of August 21, 1997, the licensee failed to include the rod block function of the reactor manual control system, a nonsafety system intended to mitigate the consequences of an accident or transient, in the scope of the Maintenance Rule program. (01173)

3. Contrary to the above, prior to August 15, 1997, the licensee had failed to include the nonsafety related intra plant communications systems, relied upon to mitigate the consequences of accidents or transients, in the scope of the Maintenance Rule program. (01183)

These violations represent a Severity Level III problem (Supplement I).
Civil Penalty - $55,000

Pursuant to the provisions of 10 CFR 2.201, Commonwealth Edison Company (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalty (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation," and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalty by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States, in the amount of the civil penalty proposed above, or the cumulative amount of the civil penalties if more than one civil penalty is proposed, or may protest imposition of the civil penalty in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalty will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violation(s) listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty in whole or in part, such answer may request remission or mitigation of the penalty.

In requesting mitigation of the proposed penalty, the factors addressed in Section VI.B.2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalty, and Answer to a Notice of Violation) should be addressed to: Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region III, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you <u>must</u> specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Lisle, Illinois,
this 3rd day of March 1998