

## NOTICE OF VIOLATION

Commonwealth Edison Company  
Byron Station, Units 1 and 2

Docket Nos. 50-454; 50-455  
License Nos. NPF-37; NPF-66

During an NRC inspection conducted from March 14 through May 1, 1997, one violation of NRC requirements was identified. In accordance with NUREG-1600, "General Statement of Policy and Procedure for NRC Enforcement Actions," the violation is listed below:

1. 10 CFR 73.21(b)(3)(i) describes safeguards information to include "portions of safeguards inspection reports, evaluations, audits, or investigations that disclose... uncorrected defects, weaknesses, or vulnerabilities in the system."

10 CFR 73.55(c)(9)(iii) requires licensees to protect as safeguards information, information required by the Commission pursuant to 10 CFR 73.55(c)(8)(Vehicle Control Measures) and (c)(9)(Bomb Blast Analysis).

10 CFR 73.21(e) states in part, "Each document... that contains Safeguards Information... shall be marked "Safeguards Information" in a conspicuous manner to indicate the presence of protected information...."

10 CFR 73.21(d)(2) states, in part, "While unattended, Safeguards Information shall be stored in a locked security storage container."

Contrary to the above, during the inspector's review of the records pertaining to the vehicle barrier system (VBS), a memorandum from the Engineering Department dated March 7, 1996, was noted in the file system. The memorandum contained Safeguards Information which described some uncorrected vulnerabilities with some components of the VBS. The memorandum was not marked and protected as Safeguards Information (50-454/455/97005-07(DRS)).

This is a Severity Level IV violation (Supplement III).

Pursuant to the provisions of 10 CFR 2.201, Commonwealth Edison is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region III, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting the Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in the Notice, an order may be issued to show cause why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

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

EXECUTIVE SUMMARY  
Byron Generating Station, Units 1 & 2  
NRC Inspection Report 50-454/97005, 50-455/97005

This inspection included aspects of licensee operations, engineering, maintenance, and plant support. The report covers a 7-week period of resident inspection.

Operations

- On March 14, 1997, Unit 2 was shutdown. The inspectors concluded that excellent operator performance was demonstrated during the shutdown activities (Section O1.2).
- The Unit 2 startup and main generator synchronization to the grid was completed in a well controlled manner. The inspector noted judicious troubleshooting, evaluation, and repair of the main generator output circuit breaker control switches (Section O1.3).
- The licensee's handling of the containment leak detection system was considered poor as exemplified by failure to control foreign material intrusion into the drain system and failure to take thorough aggressive followup action on indications that the system was not functioning properly. The early leak detection of a small reactor coolant leak in containment was significantly compromised. The only seismically qualified leak detection system at Byron was inoperable. This condition went unidentified by the licensee for over 5 months. Additionally, appropriate drain grates as described in the Updated Final Safety Analysis Report (UFSAR) had not been installed since plant construction. Three apparent violations were identified (Section O2.2).
- The inspectors considered the questioning attitude of the operations staff regarding the performance of a special test to be judicious and a strength. As a result the procedure was enhanced with contingencies for roll-up door failure and weather (Section O2.3).
- The licensee event report (LER) 50-455/97001, Unit 2 Containment Drain System Clogged Due to Debris, was poor and marginally acceptable due to incomplete information. One apparent violation was identified regarding the incomplete information in the LER. (Section O8.1).

Maintenance

- Routine maintenance and surveillance activities were well performed (Sections M1.1 and M1.2).
- The licensee and the inspectors noted that silt accumulation in the ultimate heat sink was faster than had been previously observed (Section M1.2).
- The inspectors considered the suspension of a special test involving the auxiliary building ventilation appropriate so as to not exceed technical specification (TS) limitations (Section M1.2).

c. Conclusions

The licensee's handling of this issue was considered poor as exemplified by failure to control foreign material intrusion into the drain system and failure to recognize indications that the system was not functioning properly. The inspectors concluded that early leak detection of a small leak was significantly compromised. The only seismically qualified leak detection system at Byron was inoperable for over 5 months and went unidentified by the licensee during that time. Additionally, appropriate drain grates as described in the UFSAR had not existed since construction. The UFSAR provided apparently contradicting information regarding the leak detection systems seismic qualification.

O2.3 Re-Evaluation of Special Test

The inspectors noted that special test SPP 97-010, "ECCS Equipment Room Negative Pressure Test," was delayed due to the questioning attitude of the operations staff. The test was used to determine if the access planned to be cut in Unit 1 containment for the replacement steam generators created a ventilation problem in the auxiliary building, particularly in the emergency core cooling system (ECCS) component rooms. The licensee used the roll-up doors in the fuel handling building to simulate the containment opening.

In discussing the test prior to performance, a unit supervisor stated that failure to meet test requirements would require both units to shut down per TS 3.0.3 requirements because all three charcoal booster fan subsystems of the auxiliary building ventilation system would be inoperable. Further discussion resulted in the test delay to revise the test procedure to better discuss operator actions for test failure and contingency actions for roll-up door failure and outside weather conditions. The inspectors considered the questioning attitude of the operations staff to be judicious and a strength.

O8 Miscellaneous Operations Issues (92700 and 92901)

O8.1 (Closed) LER 50-455/97001: Unit 2 containment drain system clogged due to debris. The circumstances surrounding the clogged containment floor drain are documented in Section O2.2. The inspector reviewed the LER and noted one apparent violation and several weaknesses. The findings included:

- The LER did not declare the containment floor drain system inoperable. However, the LER did identify the flow control device was inoperable (clogged). The safety analysis section discussed the consequences of not having the system operable.
- The LER was issued for Unit 2 being outside the design basis. With the floor drains inoperable since October, 1996, the licensee was also apparently in violation of TS 3/4.4.6, which was reportable under 10 CFR 50.73(a)(2)(i). The LER did not identify the TS violation.
- The LER indicated that it could not be determined when the flow control device became clogged. However, the system engineer reported to the inspectors that RCFC condensation could not be identified on the control room recorder for

2RF008 since the startup after the Unit 2 outage, which ended October 4, 1996. The condensation trace was present prior to the outage; therefore, the inspectors concluded the system was inoperable since the Unit 2 startup on October 4, 1996.

- An operability assessment was prepared to allow startup of Unit 2 without fixing the floor grates. The LER stated that "debris could potentially impact the containment sump RCS leakage weir box. However, any impact on the weir function would be in the conservative direction with respect to indicated RCS leakage and therefore not a concern." The inspectors noted that without the floor drain grates, the potential existed for the flow control device to become clogged and not pass any water to the weir box. The inspectors discussed the LER statement with engineering management. The licensee agreed with the inspector that the LER statement was incomplete as written. The inspectors considered the incomplete statement an apparent violation of 10 CFR 50.9, "Completeness and accuracy of information" (EEI 50-455/97005-04(DRP)).
- The inspectors considered portions of the LER safety analysis weak. The LER stated that "floor drains would ultimately overflow to the RF sump after a period of time before detecting leakage. The sump would then show an increase in level on instrumentation in the control room." The inspectors noted that overflow into the sump depended on the size of a potential leak. For a small leak, this could be a very long period of time. The RF system design was to identify a 1 gallon per minute leak within 1 hour. Also, the LER indicated that radiation monitoring could be used as leak detection; however, the inspectors noted that the radiation monitors were not as described in Regulatory Guide 1.45 (the radiation monitors were not seismic).
- The object(s) that caused the blockage in the flow control box were not found. The floor drain oil separator was checked as indicated in the LER corrective action section; however, because the separator was not drained, only floating objects could have been identified by the inspection documented in the LER. A pump down of the separator was planned for the next refueling outage. The inspectors viewed this as acceptable.

The inspectors considered LER 50-455/97001 poor and marginally acceptable due to incomplete information. This LER is closed and will be tracked under apparent violation 50-455/97005-04(DRP).

- 08.2 (Closed) LER 50-454/94015 and 94015-01: SRO absent from control room. The LER and LER supplement documented the event of October 14, 1994, when the only SRO present left the main control room. The supplement identified additional corrective actions, including having two SROs in the control room. This event was the subject of escalated enforcement and was documented in Inspection Report 50-454/455/94026(DRS), EA 94-265. Inspection Report 95011 documented closure of the violations, including review of the corrective action. The inspectors did not identify any additional issues during the LER review. This LER and the supplement are closed.

- 08.3 (Closed) VIO 50-454/455/95008-01, 50-454/455/95008-02, 50-454/455/95008-03, EEI 50-454/455/95008-04, LER 50-454/95002: Hydrogen monitors inoperable due to failure to test the water purge cycle of the monitors and the monitors were occasionally not run for greater than the minimum required sample time. These issues were identified as violations in Inspection Report 95008 and a written response was submitted by the licensee on November 22, 1995. After review of the licensee's written response and the LER, an NOV was issued December 11, 1995 (EA 95-197). The NOV cover letter documented a review of the licensee's corrective actions and LER, and concluded that no further action was required. Based on the letter dated December 11, 1995, these items are closed.
- 08.4 (Closed) URI 50-454/455/96004-04, LER 50-454/96005: Operation of safety injection (SI) accumulators outside design basis. Based on an industry identified issue, Byron identified that the plant licensing basis did not consider the effects of having more than 2 SI accumulators cross-tied during a postulated loss of coolant accident. Byron Operating Procedure (BOP) SI-5, "Raising SI Accumulator Level With SI Pumps," allowed the cross-tying of SI accumulators. Although the inspectors and licensee could not find any documentation that stated how many accumulators were tied to the common headers at any one time, operator interviews indicated that more than 2 accumulators may have been cross-tied in the past. As corrective actions, procedure BOP SI-5 was revised to limit filling or draining processes to be performed on one accumulator at a time. Transferring of water from one accumulator to another or equalizing nitrogen pressure between accumulators was limited to modes when the accumulators were not required to be operable. The inspectors reviewed the revised procedure and verified that accumulator filling and draining had been performed one accumulator at a time. These items are closed.
- 08.5 (Closed) LER 50-454/92002-01: On April 3, 1992, the licensee identified that one of the two engineered safety feature (ESF) crossties to Unit 1 was not available. A Unit 2 to Unit 1 crosstie breaker was removed from service for electrical maintenance without considering the TS impact on Unit 1. Unit 1 was unable to crosstie a 4kV ESF bus (bus 141) due to maintenance activities on the Unit 2 crosstie breaker. TS limiting condition for operation (LCO) 3.8.1.1 was not entered and the associated action requirement not met. This event was discussed in Inspection Report 454/92015. A non-cited violation was issued and no new issues were revealed by the LER. The inspector reviewed the licensee's corrective actions and considered this issue closed.

## II. Maintenance

### M1 Conduct of Maintenance

#### M1.1 Maintenance Observations (62707)

##### a. Inspection Scope

The inspectors observed all or portions of the following work requests (WR). When applicable, the inspectors also reviewed TS and the UFSAR for potential issues.

## ITFMS OPENED, CLOSED, AND DISCUSSED

### Opened

EEI 50-455-97005-01	EEI	Inoperable containment floor drain system
EEI 50-455-97005-02	EEI	Failure to identify a condition adverse to quality
EEI 50-455-97005-03	EEI	Failure to perform a safety evaluation for various types of grates in containment floor drain system
EEI 50-455-97005-04	EEI	Failure to provide complete and accurate information in LER 50-455/97001
50-454/455-97005-05	URI	Connecting strip chart recorders to operable equipment without a detailed review
50-454/97005-06	NCV	Missed surveillance during SG tube inspection
50-454/455-97005-07	VIO	Failure to mark and protect Safeguards Information

### Closed

50-454/92002-01	LER	One of the two ESF crossties to Unit 1 was not available
50-455/94001	LER	Six valves may not stroke under dP conditions
50-454/94012	LER	Increased tube degradation in Unit 1 SGs
50-454/94015	LER	SRO absent from control room
50-454/94015-01	LER	SRO absent from control room - supplement
50-454/95002	LER	U-1 train B hydrogen monitor found inoperable
50-454/95006	LER	Missed surveillance during SG tube inspection
50-454/95011	LER	Increased tube degradation in Unit 1 SGs
50-454/96003	LER	Increased tube degradation in Unit 1 SGs
50-454/96005	LER	Operation of SI accumulators outside design basis
50-455/97001	LER	Unit 2 containment drain system clogged due to debris.
50-454/97005-06	NCV	Missed surveillance during SG tube inspection
50-454/455/95007-03	VIO	Seismically inadequate scaffolding over safety-related equipment
50-454/455/95008-01	VIO	4 examples of TS 3.6.4.1 violations
50-454/455/95008-02	VIO	Apparent violation of TS 6.8.1 and BAP 300-1
50-454/455/95008-03	VIO	Apparent violation of TS 6.8.1 and BOS 0.1-1,2,3
50-454/455/95008-04	EEI	Apparent violation of 10 CFR 50
50-454/455/96010-05	URI	Protection of safeguards information
50-454/455/96004-04	URI	Cross-tied safety accumulators
50-454/96003-06	IFI	Overpressure protection device found out of service

## LIST OF ACRONYMS USED

BAP	Byron Administrative Procedure
BOP	Byron Operating Procedure
DCP	Design Change Package
dP	Differential Pressure
ECCS	Emergency Core Cooling System
EP	Emergency Preparedness
FME	Foreign Material Exclusion
GPM	Gallons per minute
HEPA	High Efficiency Particulate Air
HLA	Heightened Level of Awareness
LCO	Limiting Condition for Operation
LER	Licensee Event Report
NOV	Notice of Violation
OAD	Operational Analysis Department
PDR	Public Document Room
RCFC	Reactor Containment Fan Coolers
RCS	Reactor Coolant System
RF	Containment Floor Drain System
SG	Steam Generator
SI	Safety Injection
SRO	Senior Reactor Operator
SSE	Safe Shutdown Earthquake
TS	Technical Specification
TSC	Technical Support Center
UFSAR	Updated Final Safety Analysis Report
VBS	Vehicle Barrier System
WR	Work Request