

October 22, 2001

Mr. Oliver D. Kingsley  
President and CNO  
Exelon Nuclear  
Exelon Generation Company, LLC  
200 Exelon Way, KSA 3-E  
Kennett Square, PA 19348

SUBJECT: LIMERICK GENERATING STATION - NRC INSPECTION REPORT  
50-352/01-016, 50-353/01-016

Dear Mr. Kingsley:

The enclosed report documents an inspection conducted in the NRC Region I office at various times between April 10 and September 24, 2001, regarding the Limerick Generating Station, to assess the significance of an emergency preparedness finding identified in NRC Inspection Report Nos. 05000352/2001-003, 05000353/2001-003. The inspectors discussed the findings of this inspection via telephone with Mr. Robert Braun and other members of your staff on September 24, 2001.

This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selected examination of representative records and discussions with personnel.

Based on the results of this inspection, the inspectors identified one preliminary finding of low to moderate safety significance (White). This finding involves an inadequate critique that failed to identify a problem with a risk significant planning standard during a February 9, 2001, emergency preparedness drill evaluated in conjunction with overall crew performance in the simulator. The issue has low to moderate safety significance because this occurred during a drill and not during an actual event. We are not processing a violation associated with this finding.

We believe that we have sufficient information to make our final significance determination for the inadequate critique issue. However, you have the opportunity to either send us your position on the finding's significance and the basis for your position in writing or request a regulatory conference to discuss your evaluation and any differences with the NRC evaluation. Please contact Richard Conte at (610) 337-5183 within 7 days of the date of this letter to inform the NRC of your intentions. If we have not heard from you within 10 days, we will continue with our significance determination and enforcement decision, and you will be advised by separate correspondence of the results. Since the NRC has not made a final determination in this matter, no Notice of Violation is being issued at this time.

Mr. Oliver D. Kingsley

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Should you have any questions regarding this report, please contact Mr. Richard J. Conte at (610) 337-5183.

Sincerely,

***/RA by Richard V. Crlenjak for/***

Wayne D. Lanning, Director  
Division of Reactor Safety

Docket Nos: 50-352, 50-353  
License Nos: NPF-39, NPF-85

Enclosure: Inspection Report Nos. 50-352/01-016 and 50-353/01-016

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W. Bohlke, Senior Vice President - Nuclear Services  
J. Cotton, Senior Vice President - Operations Support  
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G. Hunger, Chairman, Nuclear Review Board  
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Mr. Oliver D. Kingsley

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U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos: 50-352  
50-353

License Nos: NPF-39  
NPF-85

Report Nos: 50-352/01-016  
50-353/01-016

Licensee: Exelon Generation Company, LLC

Facility: Limerick Generating Station

Dates: April 10 - September 24, 2001 (Various times, In-office inspection)

Inspectors: D. Silk, Senior Emergency Preparedness Inspector, DRS  
A. Burritt, Senior Resident Inspector, Limerick, DRP  
N. McNamara, Emergency Preparedness Inspector, DRS

Approved by: Richard J. Conte, Chief  
Operational Safety Branch  
Division of Reactor Safety

## SUMMARY OF FINDINGS

IR 05000352/2001-016, 05000353/2001-016, on 08/13-9/20, 2001; Exelon Generation Company, Limerick Generating Station. Drill Evaluation.

This inspection was conducted in-office by a region based inspectors and by the onsite resident inspector. The inspection identified one Preliminary White finding, which is not a violation. The significance of issues is indicated by their color (Green, White, Yellow, Red) using IMC 0609 "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at <http://www.nrc.gov/NRR/OVERSIGHT/index.html>.

### A. Inspector Identified Findings

Cornerstone: Emergency Preparedness

**TBD.** The inspectors determined that the licensee's critique of the February 9, 2001, operator crew drill to be inadequate due to the untimely identification of an emergency classification problem. The crew had inappropriately declared a General Emergency based upon incorrect criteria when a legitimate criterion was available. (Section 1EP6.b)

The failure to identify a risk significant planning standard during a drill was more than minor and significant because it had a credible impact on safety, in that inadequate critiques could result in classification errors which, in an actual event, could impact offsite agencies' abilities to implement protective actions for the public.

## Report Details

### 1. REACTOR SAFETY

Cornerstone: Emergency Preparedness (EP)

#### 1EP6 Drill Evaluation

##### Background

The purpose of this inspection was to follow up on the resident inspector's unresolved item URI 05000352;353/2001-003-03 pertaining to the licensee's critique regarding the February 9, 2001, EP evaluation during a crew performance in the simulator. Specifically, this review was pending the development of documentation demonstrating that the problems associated with the implementation of a risk significant planning standard (RSPS) on February 9, 2001, were identified and entered into the corrective action program in an accurate and timely manner.

During the February 9, 2001, simulator drill, players declared a general emergency (GE) classification because of misapplying an emergency action level (EAL). Specifically, the crew declared a GE on the potential loss of primary containment due to their incorrect assessment that the maximum core uncover time curve had been exceeded. Crew performance was contrary to training and the EAL basis. Meanwhile, the crew failed to identify the criteria (that existed for a minimum of 13 minutes before the conclusion of the scenario) for a GE classification because of spending an inordinate amount of time evaluating the maximum core uncover time curve. The condition and criteria missed by the crew were a loss of primary containment integrity indicated by a drywell pressure response inconsistent with loss of coolant accident (LOCA) conditions. Specifically, following the manual depressurization of the reactor vessel, to mitigate the event, drywell pressure decreased and approached the pressure of the suppression chamber. The indicated differential pressure between the drywell and suppression chamber and the decreasing drywell pressure without the use of drywell sprays was inconsistent with the LOCA conditions and therefore indicative of loss of primary containment integrity. At the end of the scenario, the crew was at the appropriate classification level but for the wrong reason. Exelon had initially credited this classification as a success toward the NRC's "Drill and Exercise Performance" (DEP) performance indicator (PI).

#### a. Inspection Scope

During this inspection period, inspectors reviewed licensee documentation to assess if RPSP implementation issues observed during the February 9, 2001, simulator drill were adequately identified by the licensee. Documents reviewed included Performance Enhancement Plans (PEPs) I0012266, I0012859, and I0012862; the scenario description for the February 9, 2001 drill (LSTS3311); the video tape which recorded the crew's (and licensee's) performance on February 9, 2001; EAL basis document; a PI Drill Performance Matrix; Drill Performance Talking Points; and a licensee self-assessment report obtained during the July 2001 EP program inspection.

b. Findings

The inspectors identified a preliminary white finding in that Limerick failed to identify, in a timely manner from a drill critique of February 9, 2001, a problem in implementing a risk significant planning standard (RSPS) - incorrect classification that is an appropriate classification level but for the wrong reason.

During the drill of February, 2001, the crew had a minimum of 13 minutes to identify containment conditions inconsistent with a LOCA. Initially, the licensee considered that the crew's declaration of a GE was acceptable as evidenced by crediting the PI for classification to be a success. In July 2001, the licensee informed the inspectors that they were going to change the PI data for that classification to unsuccessful; thus, indicating that the February 2001 crew performance in classifying the event was incorrect.

The inspectors recognized that the licensee had discussed containment response immediately after the scenario ended. Since the drill, there had been several conversations between the licensee and NRC inspectors (resident and regional) discussing the performance issues in the drill and the expectation that the licensee would be documenting their assessment of this issue. However, no documentation from either the EP department or operations training was produced by the licensee that clearly identified the issue in a manner such that it could be corrected to preclude recurrence until a PEP was generated and provided in August 2001.

The inspectors determined that the licensee's critique of the February 9, 2001, operator crew drill to be inadequate due to the untimely identification of an emergency classification problem. Manual Chapter 0609, Significance Determination Process (SDP), Appendix B, Emergency Preparedness, states that "the critical feature of any critique is that weaknesses are captured and entered into a corrective action system with appropriate priority. If the inspector can assure her/himself that the item will be entered into a corrective action system, the critique should be considered successful." For the February 2001 drill, the licensee did not document that the crew should have declared a GE based upon inconsistent containment response until August 2001. (Manual Chapter 0609 Appendix B Section 6.2 provides guidelines for timely correction of issues from the time of identification. Although this guidance pertains specifically to timeliness of corrective actions, the issues must first be identified. The time frames provided in Section 6.2 are reasonable for allowing licensees time to identify issues.) The inspectors consider the licensee's August 2001 documentation to be an untimely identification of the issue.

The inspector's assessment was that, based upon multiple discussions with the licensee on this issue since the drill, ample opportunity existed for the licensee to document this classification-related issue and enter it into a corrective action program so as to preclude future recurrence. Emergency classification is a RSPS. The failure to identify a RSPS during a drill was more than minor because it had a creditable impact on safety, in that inadequate critiques could result in classification errors which, in an actual event, could impact offsite agencies' abilities to implement protective actions for the public. The SDP (MC 0609, Appendix B, Sheet 1, Middle Path, Section 4) is entered because there was a failure to identify a RSPS problem during a critique. This results in a White Finding (low to moderate safety significance). **(FIN 50-352; 50-353/01-016-01)**

### Additional Information

Several issues contributed to the licensee's inadequate critique of that drill. An inexperienced emergency planning staff member was assigned to evaluate the licensed operator simulator drill. Also, he was not in the main simulator room during the critical moments leading to the GE declaration. Furthermore, the licensee had identified some issues related to the running of this scenario. The inspectors considered that these issues may have detracted from the licensee's ability to adequately critique the drill: 1) The drill had been "frozen" once early in the scenario to conduct training; 2) The scenario had not been validated to be used for emergency plan evaluations; 3) The scenario had no definitive end point to preclude the possibility of additional unanticipated emergency classification opportunities.

Furthermore, inspectors reviewed a self-assessment report that identified issues germane to the adequacy of critiquing and correcting emergency plan classification issues in the simulator. The report indicated that a negative trend in classification performance by the simulator crews was identified using data through October 2000 and documented in a PEP summary report issued in January 2001. No action was taken to address this trend. The NRC crew performance issue occurred during an evaluated crew session in February 9, 2001, and was a repeat of performance identified in the negative trend. Also, the report noted that corrective action procedure requires that a PEP be initiated for every DEP failure. Four separate DEP failures were identified that applied to Simulator Control Room Classification issues for high (SAE or GE) Classifications. Three involved the same EAL. The fourth was similar. No evidence of a Common Cause Analysis was found. The report noted that the requirement to initiate PEPs for DEP failures is being met but EP is not taking advantage of data developed by the writing of these concerns.

#### 40A6 Exit Meeting

The inspectors presented the inspection results via telephone to Robert Braun and other members of the licensee staff at the conclusion of the inspection on September 24, 2001. No proprietary information was discussed.



KEY POINTS OF CONTACT

Licensee

W. Jefferson, Director, Generation Support for Exelon  
J. Grisewood, EP Manager

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened:

FIN 50-352; 50-353/01-016-01 Inadequate drill critique

Closed

URI 50-352; 50-353/01-003-03 February Drill Critique (Section 1EP6)

Discussed

None

LIST OF BASELINE INSPECTIONS PERFORMED

71114-06 Drill Evaluation

LIST OF ACRONYMS USED

DEP	Drill and Exercise Performance
EAL	Emergency Action Level
EP	Emergency Preparedness
GE	General Emergency
LOCA	Loss of Coolant Accident
PEP	Performance Improvement Program
PI	Performance Indicator
RSPS	Risk Significant Planning Standard
SDP	Significance Determination Process