July 19, 2002

Mr. John Skolds
President and CNO
Exelon Nuclear
Exelon Generation Company, LLC
4300 Winfield Road
5th Floor
Warrenville, IL 60555

SUBJECT: LIMERICK GENERATING STATION, UNITS 1 AND 2 - NRC INSPECTION REPORT 50-352/02-10, 50-353/02-10

Dear Mr. Skolds:

On June 20, 2002, the NRC completed a team inspection at the Limerick Generating Station, Units 1 and 2 Nuclear Facilities. The enclosed report presents the results of that inspection. The preliminary results of this inspection were discussed on June 26, 2002, with Mr. W. Levis and other members of your staff.

The inspection was an examination of activities conducted under your license as they relate to the identification and resolution of problems, and compliance with the Commission's rules and regulations, and with the conditions of your operating license at Limerick Generating Station, Units 1 and 2. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the sample selected for review, there were no findings of significance identified during this inspection. The team concluded that problems were properly identified, evaluated and resolved within the problem identification and resolution program. However, the team identified that some elements of the corrective action program have not been fully effective in resolving errors associated with equipment clearance and tagging and component mis-positioning events. We acknowledge that your oversight committees identified similar findings and that increased management attention has been directed to this area.

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/reading-rm/adams.html (The Public Electronic Reading Room).

Sincerely,

/RA/

David C. Lew, Chief
Performance Evaluation Branch
Division of Reactor Safety

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

Enclosure: NRC Inspection Report 50-352/02-10, 50-353/02-10

Attachment 1: Supplemental Information

cc w/encl: Senior Vice President, Mid-Atlantic Regional Operating Group
President and CNO, Exelon Nuclear
Senior Vice President - Nuclear Services
Vice President - Mid-Atlantic Operations Support
Chairman, Nuclear Safety Review Board
Director - Licensing, Mid-Atlantic Regional Operating Group
Vice President - Licensing and Regulatory Affairs
Site Vice President - Limerick Generating Station
Plant Manager, Limerick Generating Station
Regulatory Assurance Manager - Limerick
R. Janati, Chief, Division of Nuclear Safety
Secretary, Nuclear Committee of the Board
Vice President, General Counsel and Secretary
Correspondence Control Desk
J. Johnsrud, National Energy Committee
Chairman, Board of Supervisors of Limerick Township
Manager, Licensing - Limerick and Peach Bottom
Commonwealth of Pennsylvania

Distribution w/encl:
H. Miller, RA/J. Wiggins, DRA
M. Shanbaky, DRP
D. Florek, DRP
J. Talieri, DRP
S. Iyer, DRP
W. Lanning, DRS
R. Crlenjak, DRS
D. Lew, DRS
J. Yerokun, DRS
M. Modes, DRS
A. Burritt, DRP - Senior Resident Inspector
H. Nieh, RI EDO Coordinator
S. Richards, NRR (ridsnrrdlpmlpdi)
C. Gratton, PM, NRR
J. Boska, PM, NRR
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NAME	JYerokun		MShanbaky		DLew					
DATE	07/17/02		07/ /02		07/ /02					

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REGION I

Docket Nos:	50-352, 50-353
License No:	NPF-39, NPF-85
Report No:	50-352/02-010, 50-353/02-010
Licensee:	Exelon Generating Company, LLC
Facility:	Limerick Generating Station, Units 1 & 2
Location:	Evergreen and Sanatoga Roads Sanatoga, PA 19464
Dates:	June 3 - 7, 2002 June 17 - 20, 2002
Inspectors:	Jimi Yerokun, Senior Reactor Engineer (Team Leader) Michael Modes, Senior Reactor Engineer Josephine Talieri, Reactor Engineer
Approved by:	David C. Lew, Chief Performance Evaluation Branch Division of Reactor Safety

SUMMARY OF ISSUES

IR 05000352/02-10; 05000353/02-10; on 06/03 - 20/2002; Limerick Generating Station, Units 1 and 2; biennial baseline inspection of identification and resolution of problems.

The inspection was conducted by three region-based inspectors. No findings were identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

Identification and Resolution of Problems

The team concluded that the implementation of the corrective action program at Limerick Generating Station (LGS) was adequate. The licensee was effective at identifying problems and putting them in the corrective action process. Issues were prioritized and evaluated appropriately and in a timely fashion. The evaluations of significant problems were of sufficient depth to identify likely root or apparent causes, and to address the potential extent of the circumstances contributing to the problem. Corrective actions that addressed the causes of problems were generally identified and implemented. However, the team identified that some elements of the corrective action program had not been fully effective in resolving component mis-positioning events and errors associated with equipment clearance and tagging. The team also noted that the licensee's oversight committees identified similar findings and that increased management attention has been directed to this area.

Report Details

4. OTHER ACTIVITIES [OA]

4OA2 Identification and Resolution of Problems (71152)

a. Effectiveness of Problem Identification

(1) Inspection Scope

The team reviewed the procedures describing the licensee's corrective action process. In September 2001, the licensee transitioned to the Exelon company wide corrective action program in which problems are entered as condition reports (CRs). Under the previous program, problems were entered as PEPs. The licensee considered the work control process to be a part of the corrective action process, and generally addressed minor equipment problems directly with an action request (AR). Team members attended daily management meetings where CRs were reviewed for initial screening and assignment to better understand the licensee's threshold for identifying and entering problems into their corrective action process.

The team selected items from the licensee's maintenance, operations, engineering and oversight processes to verify that the licensee appropriately considered problems identified in these processes for entry into the corrective action program. Specifically, the team reviewed a sample of maintenance and engineering ARs, operator log entries, control room deficiency and work around lists, maintenance orders, maintenance backlogs, and the disposition of selected repeat maintenance actions, engineering system and program health reports, installed temporary modification packages, quarterly CR reports and quarterly nuclear safety review board (NSRB) reports and nuclear oversight and departmental self assessments. Issues identified in these documents were reviewed to ensure underlying problems associated with each issue were appropriately considered for identification and resolution via the corrective action process.

The team also interviewed selected plant staff, security contract personnel and Exelon management to understand whether other processes were used to address problems. Additionally, the team conducted a walk down of selected portions of the plant to independently assess whether visible problems were being adequately addressed.

The team reviewed the CRs and ARs listed in Attachment 1 to determine if the licensee was identifying and entering problems into the program at an appropriate threshold. The items selected covered the period from June 2001 to the present and also covered the seven cornerstones of safety identified in the NRC Reactor Oversight Process (ROP).

(2) Findings

Based on the sample selected, the team determined that the licensee was identifying problems and entering them into the corrective action program at an appropriate threshold. The team found that problems identified in other licensee processes that met the threshold for a CR were entered into the corrective action program for resolution.

The licensee's nuclear oversight and CR trend reports were also functioning as intended to help ensure licensee management was cognizant, and addressing, problem trends within the corrective action process. Furthermore, the team confirmed through discussions with plant personnel that the corrective action process was considered and utilized as the primary problem resolution process.

b. Prioritization and Evaluation of Issues

(1) Inspection Scope

The team reviewed the CRs and ARs listed in Attachment 1 to determine whether the licensee adequately evaluated and prioritized problems. The CRs reviewed encompassed the full range of licensee evaluations, including root and apparent cause evaluations. The CRs were selected to cover the seven cornerstones of safety identified in the NRC Reactor Oversight Process. In addition, the team considered risk insights from the licensee's Individual Plant Examination (IPE) report to help focus the CR sample on risk significant plant equipment. The team also selected a sample of CRs associated with previous NRC non-cited violations (NCV) to determine whether the licensee was evaluating and resolving problems associated with compliance to applicable regulatory requirements. The team also reviewed the licensee's evaluation of industry operating experience (OE) information for applicability to their facility. The team reviewed a sample of evaluations completed within ARs for equipment issues to determine whether the evaluations were reasonably completed within the AR process. The team also reviewed the licensee's assessment of equipment operability, reportability requirements, and the potential extent of the problem.

For each CR selected, the team considered the licensee's prioritization for completing the evaluation and identifying corrective actions. The team assessed whether the licensee evaluated the problems in sufficient detail to determine the likely causes and identify corrective actions to prevent recurrence. The team reviewed the licensee's consideration of the extent of the problems to determine whether the licensee adequately bounded the issues. The team also reviewed the licensee's assessment of equipment operability and regulatory reporting requirements.

(2) Findings

The CRs reviewed were generally categorized at the correct significance level. The root cause evaluations reviewed were acceptable. The licensee's evaluations of problems were determined to be of sufficient detail to identify the likely causes. The licensee completed detailed root and apparent cause evaluations for more risk significant problems. Additionally, the licensee's proposed corrective actions reasonably addressed the causal factors. The team observed the licensee's management review committee and concluded they appropriately provided additional oversight of evaluations for more significant problems.

c. Effectiveness of Corrective Actions

(1) Inspection Scope

The team reviewed the licensee's corrective actions associated with selected CRs to determine whether the actions addressed the identified causes of the problems. The team also reviewed the licensee's timeliness in implementing corrective actions and their effectiveness in preventing recurrence of significant conditions adverse to quality. Furthermore, the team reviewed the backlog of corrective actions to determine whether there were corrective actions in the backlog that either individually or collectively were of risk significance to plant safety. The team also reviewed the Nuclear Safety Review Board's reports to evaluate the adequacy of their reviews in assessing corrective action issues.

The team attended meetings during when personnel designated as Corrective Action Program Coordinators (CAPCOs) conducted reviews of internal performance indicators of open evaluations and corrective actions to ensure that the corrective action program was being implemented properly.

(2) Findings

Based on a review of selected CRs and observation of management meetings during the inspection, the team concluded that licensee management adequately considered the potential safety significance of problems in determining the pace of corrective actions. The corrective actions were generally effective at correcting the identified problem and preventing recurrence. For more significant problems, the licensee performed effectiveness reviews some time after the corrective actions were completed to confirm the effectiveness of their corrective actions.

Notwithstanding, the team noted that errors associated with component mis-positioning events and equipment clearance and tagging continued to exist. The errors included inadequately written clearance orders, working on equipment under no clearance or a suspended clearance, failure to sign onto active clearances, improper execution of clearance orders, inadequate self and peer checking practices, and removal of clearance tags prior to completion of maintenance. For the period reviewed (June 2001 to April 2002), several of the errors resulted in a reset of the operations department event clock as documented in CRs 61128, 61179, 61223, 61246, 80967, 81251, 83768, 85477, 86645, 89119, 89618, 94445, 94586, 98499, 98778, 99531, 102019 and 105691.

The team noted that the Nuclear Safety Review Board commented on the declining trend in the human performance area, specifically in Operations, in its reports dated June 28, 2001, January 11, 2002, March 15, 2002, and May 30, 2002. To address the equipment clearance and tagging issues, the licensee had initiated CR 00094564, "Increased Trend in C&T Office Performance Related Issues," in February 2002. In April 2002 the licensee initiated CR 00103192, "Trend to Evaluate Cause of Inadequate Verification Practices," to address inadequate verification practices. During this inspection, the licensee initiated CR 00112368, "Operations Human Performance Corrective Actions," to capture certain generic corrective actions which were not

previously documented in the formal corrective action program.

d. Assessment of Safety-Conscious Work Environment

(1) Inspection Scope

During the course of the inspection, team members interviewed plant staff to determine if conditions existed that would result in personnel being hesitant to raise safety concerns to their management and/or the NRC.

(2) Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

On June 26, 2002, the team presented the inspection results to Mr. W. Levis and other members of the Limerick Generating Station management. Exelon acknowledged the findings presented. Exelon did not indicate that any of the information presented at the exit meeting was proprietary.

ATTACHMENT 1

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Partial List of Persons Contacted (Alphabetically)

J. Bauers, Manger, Training
R. Braun, Plant Manager
E. Callan, Director, Maintenance
R. Dickinson, Manager, Nuclear Oversight
T. Dougherty, Operations Superintendent
P. Dunston, Human Performance
R. Harding, Engineer, Regulatory Assurance
D. Hocker, Regulatory Assurance Engineer
M. Kaminski, Manager, Regulatory Assurance
J. Karkoska, Emergency Preparedness Coordinator
R. Landis, Operations Support Manager
W. Levis, Vice President
C. Mudrick, Director, Engineering
S. Muntzenber, Engineer, Regulatory Assurance
W. O'Malley, Director, Operations
J. Stone, Director, Work Management
A. Winter, Corporate Corrective Action Program Coordinator

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

None

LIST OF DOCUMENTS REVIEWED

Procedures

LS-AA-125, Corrective Action Program (CAP) Procedure, Revision 2
RP-AA-1005, Condition Report (CR) Initiation, Revision 1
LS-AA-115, Operating experience Procedure, revision 0

Nuclear Oversight and Departmental Assessment Reports

Nuclear Oversight Continuous Assessment Report, April - June, 2001
Nuclear Oversight Continuous Assessment Report, July - September, 2001
Nuclear Oversight Safety Assessment, NOSA-LG-01-04, October - December 2001
Nuclear Oversight Safety Assessment, NOSA-LG-02-1Q, January - March 2002
Site Wide Corrective Action Program (CAP) Self Assessment, May 1 - 3, 2002

Nuclear Safety Review Board Meeting Summaries

Nuclear Safety Review Board Meeting Report, dated January 11, 2002
Nuclear Safety Review Board Meeting Report, dated March 15, 2002
Nuclear Safety Review Board Meeting Report, dated May 30, 2002
Nuclear Safety Review Board Meeting Report, dated June 28, 2002

Condition Reports

CR 00060040	CR 00060306	CR 00061141	CR 00086271
CR 00076542	CR 00096363	CR 00089119	CR 00078605
CR 00096370	CR 00060030	CR 00061084	CR 00061113
CR 00095951	CR 00098292	CR 00061097	CR 00074816
CR 00075680	CR 00075708	CR 00095896	CR 00097926
CR 00099392	CR 00094199	CR 00094196	CR 00061096
CR 00099104	CR 00098780	CR 00092937	CR 00094200
CR 00061123	CR 00061152	CR 00061131	CR 00085623
CR 00061088	CR 00061093	CR 00061128	CR 00061179
CR 00061223	CR 00061246	CR 00072390	CR 00078558
CR 00080967	CR 00081251	CR 00083768	CR 00085477
CR 00086645	CR 00089119	CR 00089618	CR 00096103
CR 00094171	CR 00097166	CR 00094445	CR 00094586
CR 00098499	CR 00098778	CR 00099531	CR 00105691
CR 00101408	CR 00106694	CR 00104372	CR 00106541
CR 00103525	CR 00100575	CR 00101361	CR 00101357
CR 00100925	CR 00101596	CR 00101357	CR 00103525
CR 00111254	CR 00111527	CR 00111562	CR 00100158
CR 00102019	CR 00103799	CR 00101890	CR 00103192
CR 00105691			

Action Requests (AR)

A1361572	A1349404	A1346673	A1347189
A1347932	Ai353947	A1357487	A1363777
A1333606	A1359424	A1328610	A1325615
A1362263	A1359101	A1367287	A1369223
A1346372	A1333966	A1360682	A1365089
A1331627	A1333462	A1356853	A1307902
A1321553	A1221675	A1361478	A1328163
A1354134	A1322632	A1360228	A1362633
A1347507	A1321577	A1348513	A1365877
A1352609	A1345936	A1368663	A1348928
A1354649	A1339522	A1345142	A1354528
A1367053	A1366883	A1346940	A1334368
A1324199	A1323608	A1321704	A1323752
A1323922	A1324701	A1330845	A1330960
A1331287	A1331843	A1331843	A1333083
A1333434	A1336433	A1346586	A1346921
A1349722	A1355406	A1356123	A1371768

Miscellaneous

SO-2002-001 Rev. 0 - Human Performance Improvement Initiatives
Operations Improvement Plan Action Items, 4/22/02 Revision
MR a(1) System Report, Emergency Service Water Units 1&2
System Health Report, Feedwater, 3rd Quarter, 2001
System Health Report, Residual Heat Removal System, 2nd Quarter, 2001
System Health Report, Emergency Diesels, 3rd Quarter, 2001
System Health Report, Emergency Service Water, 3rd Quarter, 2001
Chapter 16 - Emergency Preparedness Areas - 1st Quarter 2002
Chapter 16 - Emergency Preparedness Areas - 3rd and 4th Quarter 2001
Chapter 3 - Operations - Annual 2001, April 2002

Non-Cited Violations

NCV 50-353/2001-005-01, RCIC ST Risk Assessment Missed
NCV 50-352, 353/2001-007-01, ESW Wetwell Screens, No PM (CR 00075213)
NCV 50-352/2001-012-02, TS VIO, ST Missed, EDG FO Water
NCV 50-352/2002-002-02, TS VIO, U1 Batt Charger Inoperable, CR 00100013

LIST OF ACRONYMS USED

AR	Action Request
CAP	Corrective Action Process
CAPCO	Corrective Action Program Coordinator
CR	Condition Report
IPE	Individual Plant evaluation
LGS	Limerick Generating Station
NCV	Non-cited Violation
NRC	Nuclear Regulatory Commission
NSRB	Nuclear Safety Review Board
OE	Operating experience
ROP	Reactor Oversight Process
SDP	Significance Determination Process