

April 30, 2001

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

SUBJECT: LIMERICK GENERATING STATION - NRC INSPECTION REPORT
05000352/2001-003, 05000353/2001-003

Dear Mr. Kingsley:

On March 31, 2001, the NRC completed an inspection at your Limerick Generating Station Units 1 and 2. The enclosed report documents the inspection findings which were discussed on April 10, 2001, with W. Levis and other members of your staff.

This inspection examined 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. The inspectors reviewed procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, the inspectors identified two issues of very low safety significance (Green). One of these issues was determined to involve a violation of NRC requirements. However, because of its very low safety significance and because it has been entered into your corrective action program, the NRC is treating this issue as a Non-Cited Violation, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny this non-cited violation, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the Limerick facility.

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 the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (The Public Electronic Reading Room).

Sincerely,

/RA/

Donald Florek, Acting Chief
Project Branch 4
Division of Reactor Projects

Docket Nos.: 05000352; 05000353
License Nos: NPF-39; NPF-85

Enclosure: Inspection Report 05000352/2001-003, 05000353/2001-003

Attachment: (1) Supplemental Information

cc w/encl:

J. J. Hagan, Senior Vice President, Exelon Generation Company, LLC
W. Bohlke, Senior Vice President - Nuclear Services
J. Cotton, Senior Vice President - Operations Support
J. Skolds, Chief Operating Officer
G. Hunger, Chairman, Nuclear Review Board
J. A. Hutton, Director - Licensing, Exelon Generation Company, LLC
J. Benjamin, Vice President - Licensing and Regulatory Affairs
W. Levis, Vice President - Limerick Generating Station
R. C. Braun, Plant Manager, Limerick Generating Station
K. Gallogly, Manager, Experience Assessment
Chief - Division of Nuclear Safety
Secretary, Nuclear Committee of the Board
E. Cullen, Vice President, General Counsel
Correspondence Control Desk
Commonwealth of Pennsylvania

Distribution w/encl: (via e-mail)

H. Miller, RA/J. Wiggins, DRA
 M. Shanbaky, DRP
 D. Florek, DRP
 J. Talieri, DRP
 A. Burritt, DRP - Senior Resident Inspector
 J. Shea, OEDO
 E. Adensam, NRR
 C. Gratton, PM, NRR
 J. Boska, PM, NRR
 Region I Docket Room (with concurrences)

DOCUMENT NAME: C:\IR01-003 rev 2.wpd

After declaring this document "An Official Agency Record" it **will** be released to the Public.

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	RI/DRP		RI/DRP	
NAME	A Burritt/DF for		D Florek/DF	
DATE	04/30/01		04/30/01	

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION

REGION 1

Docket Nos: 05000352; 05000353
License Nos: NPF-39, NPF-85

Report No: 05000352/2001-003, 05000353/2001-003

Licensee: Exelon Generation Company

Facility: Limerick Generating Station, Units 1 & 2

Location: Evergreen and Sanatoga Roads
Sanatoga, PA 19464

Dates: February 11, 2001 thru March 31, 2001

Inspectors: A. Burritt, Senior Resident Inspector
B. Welling, Resident Inspector
N. McNamara, Emergency Preparedness Inspector

Approved by: Donald Florek, Acting Chief
Projects Branch 4
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000352/2001-003, IR 05000353/2001-003, on 02/11-03/31/2001, Exelon Generation Company, Limerick Generating Station; Units 1 and 2. Heat Sink Performance, Drill Evaluation.

This report was conducted by resident inspectors and a regional Emergency Preparedness Inspector. The inspection identified two Green findings, one of which was a Non-Cited Violation. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 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: Mitigating Systems

- **Green.** The inspector identified that the 2A, 2B, and 1A residual heat removal system heat exchangers were not performance tested consistent with commitments to GL 89-13 in that specified testing intervals were exceeded.

The finding was of very low significance because although the required performance tests of the RHR heat exchangers were not conducted within the required testing intervals, no actual loss of safety function occurred. (Section 1R07)

Cornerstone: Emergency Preparedness

- **Green.** The inspector identified a Non-Cited Violation associated with the failure to correct a previously identified emergency preparedness exercise deficiency associated with the accuracy of the average reactor water level indication value displayed in the Technical Support Center and Emergency Operations Facility.

The finding was of very low significance because although the emergency preparedness deficiency was not corrected it did not result in a failure to meet an emergency preparedness planning standard. (Section 1EP6)

TABLE OF CONTENTS

SUMMARY OF FINDINGS	ii
Report Details	1
1. REACTOR SAFETY	1
1R04 Equipment Alignment	1
1R05 Fire Protection	1
1R07 Heat Sink Performance	2
1R12 Maintenance Rule Implementation	3
1R13 Maintenance Risk Assessments and Emergent Work Evaluation	3
1R14 Personnel Performance During Non-routine Plant Evolutions and Events	4
1R15 Operability Evaluations	4
1R16 Operator Workarounds	5
1R17 Permanent Plant Modifications	6
1R19 Post-Maintenance Testing	6
1R20 Refueling and Outage Activities	7
1R22 Surveillance Testing	7
1R23 Temporary Plant Modifications	7
1. EMERGENCY PREPAREDNESS [EP]	8
1EP4 Emergency Action Level (EAL) and Emergency Plan Changes	8
1EP6 Drill Evaluation	8
4. OTHER ACTIVITIES [OA]	11
4OA1 Performance Indicator Verification	11
4OA6 Meetings, Including Exit	11
.1 Exit Meetings	11
SUPPLEMENTAL INFORMATION	12

Report Details

Summary of Plant Status

Unit 1 began this inspection period operating at 100% power and remained at or near that power level except for planned testing and control rod pattern adjustments and the following:

- On March 9, operators shutdown the unit to inspect and repair safety relief valve outlet flange bolting. The unit was returned to 100% power on March 12.

Unit 2 began this inspection period operating at 96% power in end-of-cycle coastdown.

- On February 23, operators commenced a shutdown to repair the 2N and 2M safety relief valves (SRVs). As operators were reducing power, the 2N SRV lifted unexpectedly and failed to re-close. Operators shut down the plant in accordance with an operational transient procedure and entered emergency operating procedures. The unit was returned to its pre-shutdown power level on February 28.
- On March 22, operators experienced an unplanned power reduction to 56% due to a runback of the recirculation pumps caused by a reactor level excursion as operators were shifting feedwater level control system modes. The unit was returned to its pre-transient power level on March 23.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment (71111.04)

a. Inspection Scope

The inspectors performed walkdowns of the Unit 2 high pressure coolant injection and reactor core isolation cooling systems while the 2A reactor feed pump was out of service for maintenance. The inspectors verified the positions of key system valves and reviewed the condition of major system components.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

The inspectors toured high risk areas at both Limerick units to assess the licensee's control of transient combustible material and ignition sources, fire detection and suppression capabilities, fire barriers, and any related compensatory measures. The fire areas included:

- Unit 2B residual heat removal system room (fire area 55)
- Unit 1 reactor core isolation cooling system room (fire area 33)

- Unit 2 static inverter compartment (fire area 21)

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

The inspectors observed heat exchanger performance testing per routine test RT-2-12-390-2, for the 2A residual heat removal (RHR) system heat exchanger. The inspectors reviewed documentation for potential deficiencies which could mask degraded performance and common cause performance problems. The inspector also reviewed the previous maintenance and test records associated with the RHR heat exchangers to assess whether the licensee was meeting their commitments to Generic Letter (GL) 89-13, "Service Water System Problems Affecting Safety-Related Equipment."

b. Findings

The inspector identified that Exelon did not meet GL 89-13 commitments regarding the frequency of performing baseline and periodic tests on the RHR heat exchangers. GL 89-13 specifies a maximum periodic test interval of 5 years and if baseline tests are required, such as following replacement of tubes, the baseline test interval is once an operating cycle (nominally 2 years) until sufficient baseline trend data is obtained to extend the baseline test interval to the periodic test interval.

The inspector determined that the prior periodic test for the 2A RHR heat exchanger was conducted in December 1994 (6 year interval) and exceeded the GL 89-13 maximum periodic test interval. The inspector determined that the last periodic test of the 2B RHR heat exchanger was in January 95 (6 years ago), which exceeds the GL 89-13 maximum periodic test interval, and the test data indicated a potential adverse trend associated with this heat exchanger's performance. Exelon initiated PEP I0012388 to address the missed tests. As an immediate corrective action for the missed 2B heat exchanger test, Exelon performed an operability determination and scheduled a test of this heat exchanger in early April 2001 to confirm their operability assessment.

Following replacement of the tubes in the 1A heat exchanger in 1994, Exelon conducted a baseline test in January 1996. In accordance with GL 89-13, the next baseline test should have been conducted in 1998 but was not performed until February 2000. The inspector concluded that the baseline test in January 1996 did not provide sufficient baseline trend data to extend the schedule for the baseline test from 1998 to 2000.

This issue of not testing RHR heat exchangers in accordance with Exelon's commitment to GL 89-13 is more than minor. The issue is more than minor because the issue has a credible impact on safety in that given the actual testing intervals, if degradation in performance of the RHR heat exchangers had occurred, it would not have been detected for up to several years. Additionally, this was not an isolated occurrence since multiple RHR heat exchanger tests were missed. This issue affects the Mitigating

Systems cornerstone because it could credibly affect the operability of the RHR exchanger, a component in a risk significant mitigating system. It could credibly affect operability because, given the actual testing intervals, if heat exchanger performance problems had affected operability, the operability concerns could have been undetected for up to several years. This issue was determined to be of very low risk significance (Green) by the Significance Determination Process for Reactor Inspection Findings at Power because no actual loss of safety function occurred. The failure to meet the Generic Letter 89-13 commitments, describe above, is not a violation of NRC requirements since the commitment, by itself, does not constitute an NRC requirement.

1R12 Maintenance Rule Implementation (71111.12)

a. Inspection Scope

The inspectors reviewed Exelon's actions with respect to the Maintenance Rule for the following equipment performance problems:

- HV-011-054A emergency service water supply to main control room chiller-failure to open
- 2A electrical protection assembly undervoltage device failure
- Unit 2 suppression pool level instrument failure
- Unit 2 suppression pool clean up pump trip

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation (71111.13)

a. Inspection Scope

The inspectors reviewed Exelon's risk management and risk assessments as required by 10 CFR 50.65 (a)(4) of the following emergent and planned maintenance activities:

- 2A reactor feed pump maintenance outage
- Unit 2 reactor core isolation cooling pump oil level perturbation
- 2A reactor protection system breaker trip (loss of power)

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-routine Plant Evolutions and Events (71111.14)

a. Inspection Scope

The inspectors reviewed Exelon's operator performance during the 2N safety relief valve inadvertent opening event. The inspector evaluated the following:

- Reactor vessel high level on initial post shutdown transient
- Reactor vessel high level following the closure of the 2N safety relief valve
- Reactor vessel re-pressurization and second opening of the 2N SRV following the initial closure at 120 psig reactor pressure
- Timeliness of re-entering T-102 on high suppression pool level
- Timeliness of cycling the drywell to suppression chamber vacuum breakers including compliance with the associated Technical Specifications.
- Failure to evaluate and record suppression pool temperatures as required by Technical Specifications
- Initial problems opening a shutdown cooling isolation valve

h. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed operability evaluations associated with the following plant equipment conditions:

- Emergency service water leaks on emergency core cooling system room coolers
- Residual heat removal system shutdown cooling return check valve
- Unit 2 Reactor vessel cool down rate exceeded
- Unit 1 Safety relief valve (SRV) outlet flange bolting

In addition, following the actuation of the 2N SRV on February 23, the inspectors reviewed engineering analyses and the leakage monitoring plan (RT-6-041-490-2) that were used to support continued operation with the degraded 2N SRV. The SRV first stage pilot valve began leaking in June 2000, and leakage increased throughout late 2000 and early 2001.

The inspector reviewed the leakage monitoring plan that established criteria for shutting down the unit based, in part, on leakage past the first stage pilot valve. The monitoring of leakage past the first stage pilot valve was important in reducing the likelihood of both an initiating event (SRV lift) and a loss of reactor coolant system barrier integrity (failure to close). Engineering personnel were aware that Limerick's 3-stage Target Rock SRVs were susceptible to a failure to re-close at a relatively low pilot valve leakage rate of about 15 lbm/hr and would lift at about 25 lbm/hr.

b. Findings

The inspectors noted that the SRV leakage monitoring plan was based on limited testing data and some engineering judgement with respect to a correlation between the SRV pilot temperature and pilot valve leakage. Secondly, the inspectors noted that the monitoring plan used criteria based on a pilot temperature element that was not originally intended to provide precise information on pilot valve leakage. These factors led to uncertainties in the determination of the actual pilot valve leakage rate.

Exelon's immediate corrective actions following the event included replacing the SRV and revising the monitoring plan to add margin for the pilot valve temperature limits. Also, Exelon began extensive testing and failure analyses of the SRV first stage pilot valve. Exelon's corrective action document was PEP I0012314.

Exelon's root cause analysis of the actuation of the 2N SRV was still in progress at the end of the inspection period. Completion of the root cause analysis is needed for the NRC to determine whether performance issues were involved. If NRC review of Exelon's root cause analysis identifies a potential performance issue associated with the SRV leakage monitoring plan it may constitute a more than minor issue because it resulted in an SRV opening, an actual impact on safety, and affected the initiating events cornerstone due to the associated reactor shutdown. The resolution of this item is pending inspector review of Exelon's root cause analysis and will be tracked as an unresolved item. **(URI 05000353/2001-003-01)**

1R16 Operator Workarounds (71111.16)

a. Inspection Scope

The inspectors reviewed the aggregate impact of Unit 2 operator workarounds and equipment deficiencies during the Unit 2 SRV actuation event. The inspectors evaluated the cumulative effects of these items on the ability of operators to respond in a correct and timely manner. The inspectors also reviewed these deficiencies to determine if there were any items that complicated the operators' ability to implement emergency operating procedures, but were not identified as operator workarounds. The items included:

- Control rod 22-43 not indicating full in
- 2C reactor feed pump failure to trip on high reactor level
- Tripping of reactor water cleanup pumps during depressurization
- Drywell/suppression pool vacuum breaker indication problem
- Repeated tripping of the suppression pool cleanup pump

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17)a. Inspection Scope

The inspectors reviewed modification-related aspects of a licensee root cause investigation into relaxation of SRV outlet flange studs. The inspectors examined engineering change request 01-00216, PEP I0012312, and the investigation plan. The inspectors also discussed the issue with the investigation leader and other engineering personnel.

b. Findings

Following the Unit 2 SRV actuation, Exelon discovered that the 2N SRV was missing six outlet flange studs, and torque values on outlet flange studs of all other Unit 2 SRVs were substantially below the specified range. Exelon's analysis indicated that structural integrity of all the joints were maintained. Notwithstanding, Exelon's analysis also indicated that if one additional outlet flange stud was missing from the 2N SRV, the joint could have lost structural integrity and leaked steam directly into the drywell.

Later in the inspection period, licensee personnel checked the torque values on the outlet flange studs of Unit 1 SRVs. Although Exelon found that most were also below the specified range, this condition did not result in a loss of structural integrity of the joints.

Engineering personnel had not completed their root cause determination by the end of the inspection period. Some of the potential causes being considered were: insufficient flange gasket crush, gasket creep, steam line vibration, engineering evaluations of reduced torque values for the flange bolting, and maintenance practices. Completion of the root cause analysis is needed for the NRC to determine whether performance issues were involved. If NRC review of Exelon's root cause analysis identifies a potential performance issue associated with the 2N SRV outlet flange bolting it may constitute a more than minor issue because it created a credible impact on safety and affected the barrier integrity cornerstone in that an additional stud failure on the 2N SRV could have leaked steam into the drywell. The resolution of this item is pending inspector review of Exelon's root cause analysis (PEP I0012312) and will be tracked as an unresolved item. **(URI 05000353/2001-003-02)**

1R19 Post-Maintenance Testing (71111.19)a. Inspection Scope

The inspectors observed the post-maintenance test and reviewed the test data for the following:

- 2N safety relief valves replacement - steam leak test
- 2A-Y160 electrical protection assembly breaker - UV device replacement
- 2N safety relief valves replacement - pneumatic system leak test and valve operations

- 2C residual heat removal unit cooler supply valve solenoid replacement
- 2DV-210 residual heat removal unit cooler repair

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities (71111.20)

a. Inspection Scope

The inspectors observed and/or reviewed selected outage activities for the following:

- Unit 2 maintenance outage for 2M and 2N safety relief valve repairs
- Unit 1 maintenance outage for safety relief valve tailpipe repairs

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed and reviewed the results of several scheduled equipment surveillance tests, including:

- ST-6-049-230-2 - Reactor core isolation cooling pump, valve and flow test
- ST-2-055-403-1 - High pressure coolant injection suppression pool level instrument calibration
- ST-6-020-232-2 - Emergency diesel generator fuel oil transfer pump testing

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspector reviewed a planned temporary modification to the 2N safety relief valve pilot which was intended to defeat the automatic opening function.

b. Findings

No findings of significance were identified.

1. EMERGENCY PREPAREDNESS [EP]

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level (EAL) and Emergency Plan Changes (71114.04)a. Inspection Scope

A regional in-office review of revisions to the Limerick/Peach Bottom Emergency Plan, Implementing Procedures and EAL changes was performed to determine that the changes did not decrease the effectiveness of the Emergency Plan. The inspector reviewed the changes following the guidelines outlined in Inspection Procedure 71114, Attachment 04, "Emergency Action Level and Emergency Plan Changes." The reviewed documents are listed below and covered the period from January 1, 2001, through March 31, 2001.

Emergency Plan, Table of Contents, Rev. 20
 ERP-110 (LIM), Emergency Notification, Rev. 32
 Emergency Communications Plan, Rev. 9
 ERP-800 (PB), Maintenance Team, Rev. 20
 ERP-700 (PB), Technical Support Team, Rev. 16
 ERP-110 (PB), Emergency Notification Telephone List, Rev. 57
 ERP-205 (LIM), Emergency Preparedness Coordinator/TSC, Rev.9
 ERP-206 (LIM), Support Services Group, Rev. 8

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)a. Inspection Scope

The inspector observed emergency preparedness drills in the simulated control room on five separate occasions (1-12, 1-19, 1-26, 2-2, and 2-9-01). Five separate operating crews were observed. The drills were regularly scheduled activities that were credited toward the Drill and Exercise Performance and Emergency Response Organization Drill Participation performance indicators. The inspector evaluated the conduct of the drills and adequacy of Exelon's critique of performance to identify weaknesses and deficiencies.

The inspector also evaluated the corrective actions for a reactor level indication problem that was a previously identified exercise deficiency documented in NRC report 50-352, 353/99-06. During a 1999 exercise, the indication problem resulted in an inaccurate core uncover prediction. The resolution of this issue was documented in PEP 10010265.

b. Findings

Drill Critique

The inspector did not have sufficient documentation available at the end of the inspection to determine whether Exelon's emergency plan drill evaluation, critique and subsequent documentation for the February 9 drill were adequate. The inspector observed the emergency director upgrade a classification to General Emergency as a result of an inappropriate interpretation of an emergency action level (EAL). The Exelon critique and documentation were not available at the end of the inspection to determine if this observation was properly identified and corrected.

The scenario required the crew to classify the event as a Site Area Emergency, however the crew classified the event as a General Emergency. After the crew classified the simulated event as a Site Area Emergency using emergency action level (EAL) 3.2 Fission Product Barrier Table, reactor water level momentarily went below -186 inches. The crew re-evaluated EAL 3.2 and, after substantial discussion and review of the EAL bases, upgraded the classification to a General Emergency because they determined that reactor water level was not restored to above -186 inches within the time limits of the Maximum Core Uncovery Time Limit Curve. Although the Maximum Core Uncovery Time Limit Curve did not have data for times earlier than 90 minutes after the reactor was shut down, the crew expanded the curve and determined they had exceeded the extended curve. The crew used a method not previously taught in training.

Exelon's staff and operations management post drill evaluations concluded that the crew correctly classified the event rather than conclude that the crew's classification was inaccurate. The crew's classification was inaccurate because the method to extend the curve was not consistent with previous training or the EAL bases document. On February 9, the inspector observed the post drill discussions conducted immediately following the drill and observed that the crew questioned their interpretation of EAL 3.2. The Emergency Preparedness evaluator stated that he would discuss this with other station personnel to answer the crew's question about how the EAL in question should be interpreted. Based on the observed performance and lack of a clear resolution during the post-drill discussions as to how the EAL should be applied, the inspector brought the associated circumstances to the attention of plant management. Following extended discussions of crew performance on February 9 and review by the Operations Manager, Exelon initiated PEP I0012266. The PEP documented the Operations Manager's assessment that concluded the crew's General Emergency declaration was correct based on the potential failure of the primary containment and the increasing dose rate at a 2 mile radius. The PEP documented some actions to add clarity to the EAL and bases and the need to improve the conduct of drills but did not address the crew's inaccurate classification. Exelon's formal drill critique and associated documentation were not yet available at the end of the inspection period to determine if Exelon had addressed the classification performance issues. As result the inspector could not determine the adequacy of Exelon's critique. This issue will remain open until the inspector reviews Exelon's critique documentation. This issue will be tracked as an unresolved item. **(URI 05000352;353/2001-003-03)**

Inadequate Corrective Action for a Previously Identified Exercise Deficiency

During the drill observation on January 12, the inspector identified that a previous exercise deficiency with the average reactor water level indication value displayed in the Technical Support Center (TSC) and Emergency Operations Facility (EOF) was not adequately corrected. The inspector observed that the average reactor water level indication value displayed in the TSC and EOF was about 70 inches higher than actual level during the simulated event. Although the inspector confirmed that plant control and mitigation decisions in the simulated control room were made using the actual level indications, Emergency Response Organization (ERO) decisions and independent oversight assessments, made in the TSC and EOF, could be reasonably based on the inaccurate average reactor water level indication.

Exelon's corrective actions for the inaccurate average reactor water level indication included a revision to a Technical Support Guideline (TSG) 1.1 "Control Parameter Assessment," to evaluate the validity of plant parameters indicated on the TSC and EOF plant status displays. The revision to the TSG incorporated notes on a sample reactor pressure vessel level validation display. The notes described the various colors and symbols used on the display. This information could be used to interpret the validity and understand the meaning of the various displayed parameters. The inspector determined that Exelon's corrective actions were inadequate because the TSG was not required to be used, nor would it necessarily identify the specific level discrepancy, and there was no reasonable assurance that the inaccurate reactor water level indications would be identified to the ERO.

This issue is of more than minor significance because it has a credible impact on safety since the inadequately corrected average reactor water level indication value is used by the ERO to evaluate the progression of an accident and the uncorrected inaccuracies could lead to incorrect assessments of plant conditions and result in untimely emergency plan actions. This issue affects the Emergency Planning cornerstone because this issue also involves the failure to implement a regulatory requirement in that 10 CFR 50.47 (b)(14) requires that deficiencies identified as a result of exercises and drills be corrected. The issue was determined to be of very low risk significance (Green) by the Emergency Preparedness Significance Determination Process because this issue did not involve a failure to meet a planning standard. The failure to correct the reactor water level indication problem, a previously identified exercise deficiency, is a violation of

10 CFR 50.47. This violation is being treated as a as a non-cited violation consistent with Section VI.A of the NRC Enforcement Policy issued May 2000 (65 FR 25368). This violation is in Exelon's corrective action program as PEP I0010265. **(NCV 05000352;353/2001-03-04)**

4. OTHER ACTIVITIES [OA]

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

An onsite inspection was performed to review Exelon's process for identifying the data that is utilized to determine the values for the three emergency preparedness performance indicators which are:

- Drill and Exercise Performance
- Emergency Response Organization participation
- Alert and Notification System reliability

The review included selected drill/exercise and actual event reports, emergency response organization attendance records, and alert and notification testing and maintenance records. The inspector held discussions with emergency preparedness personnel responsible for accumulating and evaluating the performance indicator data and with vendor personnel who maintain and test the siren system. The review covered the period from January 2000 through February 2001.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

.1 Exit Meetings

The inspectors presented the inspection results to Mr. Levis and other members of station management on April 10, 2001. The inspectors asked Exelon whether any materials examined during the inspections should be considered proprietary. No proprietary information was identified.

Attachment 1

SUPPLEMENTAL INFORMATION**PARTIAL LIST OF PERSONS CONTACTED**Exelon Generation Company

M. Aldermen	Senior Manager, Plant Engineering
J. Armstrong	Director, Site Engineering
R. Braun	Plant Manager
W. Jefferson	Director, Mid-Atlantic ROG Generation Support
K. Gallogly	Regulatory Assurance Manager
N. J. Grisewood	Manager, Emergency Preparedness
W. Levis	Site Vice President
B. Mandik	EP Specialist
J. Tucker	Senior Manager, Operations

ITEMS OPENED, CLOSED, AND DISCUSSEDOpened

URI 05000353/2001-003-01	Review of Exelon's root cause analysis on opening of the 2N safety relief valve
URI 05000353/2001-003-02	Review of Exelon's root cause analysis on safety relief valve outlet flange stud relaxation
URI 05000352;353/2001-003-03	Review of Exelon's emergency preparedness drill critique

Opened and Closed During This Inspection

NCV 05000352;353/2001-003-04	Inadequate corrective action for a previously Identified emergency preparedness exercise deficiency
------------------------------	---

LIST OF ACRONYMS USED

CFR	Code of Federal Regulations
EAL	Emergency Action Level
EOF	Emergency Operations Facility
ERO	Emergency Response Organization
GL	Generic Letter
NCV	non-cited violation
NRC	Nuclear Regulatory Commission
OA	Other Activities
PEP	Performance Enhancement Program
RHR	residual heat removal
SDP	significance determination process
SRV	safety relief valve
TSC	Technical Support Center
TSG	technical support guideline