December 13, 2000

Mr. Robert G. Byram
Senior Vice President - Nuclear
PPL, INC.
Susquehanna Steam Electric Station
2 North Ninth Street
Allentown, Pennsylvania 18101

SUBJECT: NRC-EVALUATED EMERGENCY PREPAREDNESS EXERCISE - SUSQUEHANNA INSPECTION REPORT NOS. 05000387/2000-010 AND 05000388/2000-010

Dear Mr. Byram:

The enclosed report documents an inspection at the Susquehanna Steam Electric Station. The inspectors evaluated the performance of your emergency response organization during the November 2, 2000, full-participation exercise, the post-exercise critique, and the emergency preparedness performance indicators as specified in the reactor oversight program. The inspectors discussed the findings of this inspection with yourself and other members of your staff on November 6, 2000.

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 procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, the NRC identified one violation that was evaluated under the significance determination process, and was determined to be of very low safety significance (Green). This violation was entered into your corrective action program, and was discussed in the summary of findings and in the body of the attached inspection report. This issue was determined to involve a violation of NRC requirements, but because of the very low safety significance, the violation is not cited. If you contest this non-cited violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, Region I, the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washing, DC 20555-0001, and the NRC Resident Inspector at the Susquehanna Steam Electric Station.

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/NRC/ADAMS/index.html (the Public Electronic Reading Room).

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

Sincerely,

/RA/ Daniel H. Dorman for:

Wayne D. Lanning, Director
Division of Reactor Safety

Docket Nos. 05000387, 05000388
License Nos: NPF-14, NPF-22

Enclosures:
1. Inspection Report Nos. 05000387/2000-010 and 05000388/2000-010
2. NRC's Revised Reactor Oversight Process

cc w/encls:
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G. T. Jones, Vice President - Nuclear Engineering and Support
R. Ceravolo, General Manager - SSES
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DATE	11/29/00		12/08/00		12/05/00		12/12/00		12/06/00	

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U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos:	05000387, 05000388
License Nos:	NPF-14, NPF-22
Report Nos:	05000387/2000-010, 05000388/2000-010
Licensee:	PPL Susquehanna, LLC Post Office Box 35 Berwick, PA 18603
Facility:	Susquehanna Steam Electric Station
Dates:	November 1-6, 2000
Inspectors:	D. Silk, Senior Emergency Preparedness Inspector, DRS (Lead) N. McNamara, Emergency Preparedness Inspector, DRS A. Blamey, Resident Inspector, Susquehanna, DRP J. D'Antonio, Operations Engineer, DRS J. Noggle, Health Physicist, DRS R. Bores, State Liaison Officer (FEMA RAC Member)
Approved by:	Richard J. Conte, Chief Operational Safety Branch Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000387/2000-010, IR 05000388/2000-010, on 11/1-3/2000; PPL Susquehanna, LLC; Susquehanna Steam Electric Station; Units 1&2. Emergency Preparedness exercise.

This inspection was conducted by region based inspectors and the resident inspector. The significance of issues is indicated by their color (green, white, yellow, red) and was determined by the Significance Determination Process (Enclosure 2).

Cornerstone: Emergency Preparedness

- Green. During the 1997 biennial exercise, (IR 50-387;388/97-08) it was identified that the emergency operations facility (EOF) was not able to assume control of the emergency within 90 minutes of the Alert declaration. Had the emergency started at the site area emergency level, the licensee would not have met its commitment in the emergency plan of activation within 90 minutes. During this exercise, the licensee was not able to meet the 90 minutes activation goal for the EOF from the time of emergency response organization notification. The licensee has reviewed this issue but has not been able to adequately correct the problem. This is contrary to 10 CFR 50.47b(14) which states that “Periodic exercises are conducted to evaluate major portions of emergency response capabilities.....and deficiencies identified as a result of exercises or drills are (will be) corrected.” This issue was evaluated under the SDP process as a failure to implement a regulatory requirement and the failure does not appear to be programmatic. Therefore, the issue was determined to be of very low safety significant (Green) and is a non-cited violation.

Identification and Resolution of Problems

- No color. Two problems were identified by the licensee from their critique in the dose assessment area. One was an error in dose projection calculation and the other was a potentially overconservative default dose projection. Both reflect a risk significant planning standard implementation problem. It is a finding due to extenuating circumstances - potential generic issue based on observations at recent exercises.

Report Details

1. REACTOR SAFETY

Cornerstone: Emergency Preparedness (EP)

1EP1 Drill, Exercise, and Actual Events

a. Inspection Scope

The inspectors reviewed:

- The exercise scenario to determine if the exercise would test major elements of the licensee's emergency plan.
- The licensee's biennial full-participation exercise performance by focusing on risk-significant areas in the control room simulator, the technical support center, and the emergency operations facility (EOF). The risk significant areas are emergency classification, offsite notification, radiological assessment, and protective action recommendations (PARs).
- The licensee's exercise performance in the above mentioned facilities as well as the operations support center and the media operations center.
- The emergency response organization's (ERO) recognition of abnormal plant conditions, classification of emergency conditions, notification of offsite agencies, development of PARs, command and control, communications, utilization of repair and field monitoring teams, and the overall implementation of the emergency plan.
- The post-exercise critique to evaluate the licensee's self-assessment of the exercise.

b. Issues and Findings

EOF Activation

During the 1997 biennial exercise, (IR 50-387;388/97-08) it was identified that the emergency operations facility (EOF) was not able to assume control of the emergency within 90 minutes of the Alert declaration. Had the emergency started at the site area emergency level, the licensee would not have met its commitment in the emergency plan of activation within 90 minutes. During this exercise, the licensee was not able to meet the 90 minutes activation goal for the EOF from the time of emergency response organization notification. Interim drills/exercises reflected the same problem. The licensee has reviewed this issue but has not been able to adequately correct the problem. This is contrary to 10 CFR 50.47b(14) which states that "Periodic exercises are conducted to evaluate major portions of emergency response capabilities.....and deficiencies identified as a result of exercises or drills are (will be) corrected."

This issue was entered into PPL's corrective action program (CR #288518). This issues was considered to be more than minor because if left uncorrected it could result in delayed activation of the EOF during an emergency. This issue was evaluated under the SDP process as a failure to implement a regulatory requirement and the failure is not programmatic. Therefore, the issue was determined to be of very low safety significant (Green) and is a non-cited violation. **(NCV 05000387, 05000388/2000010-01)**

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors reviewed the licensee's process for identifying the data that is utilized to determine the values for the three EP performance indicators (PI):

- Drill and Exercise Performance (DEP)
- ERO Drill Participation, and
- Alert and Notification System Reliability.

The review also included a review of compiled data and records for 2000 related to the three PIs.

b. Issues and Findings

No significant findings were identified.

4OA2 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed licensee findings (drill reports and condition reports) pertaining to the recent drills, and the last licensee biennial exercise critique to determine if significant performance trends exist and to determine the effectiveness of licensee corrective actions based upon ERO performance during the exercise.

b. Issues and Findings

Dose Assessment

The licensee made an error in assessing dose projection calculations for emergency action level and PAR recommendations (risk significant planning standards (RSPS) in 10 CFR 50.47(b)(9)&((10)). The correct dose projection was discarded by players in the EOF. A decision was made by licensee controllers to intervene and correct the error to ensure that the planned exercise time line would not be altered and therefore adversely impact offsite exercise participants. The NRC team concluded that had the controller not stepped in, the licensee would not have declared a General Emergency because the original projection used by the players would not have supported an escalation in the emergency classification. The licensee reached the same conclusion in their critique and has entered this issue into their corrective action program (Condition Report (CR)

#295233).

Also, while reviewing the radiological data prior to the exercise, the inspectors noted that the PPL default dose projection may be overly conservative. Based upon the simulated release concentrations provided in the scenario, the default projection significantly exceeded the projections of the NRC's model (RASCAL). The difference in the projections stemmed from the assumptions used by the licensee (i.e., isotopic mixtures, release rates). Overly conservative dose projections could result in an unnecessary PAR. The licensee also discussed this issue during their post exercise critique and has entered the issue into their corrective action program for review (CR #295233).

These RSPS implementation problems are a finding because they have extenuating circumstances - potential generic issues based on observations at recent exercises (MC 0610 Gp. 3 questions No. 4). The finding has very low safety significance because it does not reflect a programmatic problem and it did not occur during an actual event. (No color)

40A6 Exit Meeting

The inspectors presented the inspection results to Mr. Byram and other members of his staff at the conclusion of the inspection on November 6, 2000. The licensee had no objections to the NRC findings.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. Anderson, General Manager Operations
R. Ceravolo, General Manager Maintenance
T. Harpster, Manager or Change Management
C. Smith, Supervisor, Emergency Planning
R. Lengel, Senior Nuclear Emergency Planner

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LIST OF ACRONYMS USED

CR	Condition Report
DEP	Drill and Exercise Performance
EOF	Emergency Operations Facility
ERO	Emergency Response Organization
PAR	Protective Action Recommendation
PI	Performance Indicator
RSPS	Risk Significant Planning Standard

ENCLOSURE 2

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revised its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
● Initiating Events	● Occupational	● Physical Protection
● Mitigating Systems	● Public	
● Barrier Integrity		
● Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.