MAR 2 4 1982

Docket Nos. 50-277
50-278
50-352
50-353

Philadelphia Electric Company
ATTN: Mr. Vince Boyer
Senior Vice President
Nuclear Power
2301 Market Street
Philadelphia, Pennsylvania 19101

Gentlemen:

Subject: Systematic Assessment of Licensee Performance (SALP)

This refers to the SALP performed by this office on August 10, 1981 regarding the Peach Bottom and Limerick Facilities and to the discussions of our findings held with your staff on September 4, 1981. That SALP covers the period of July 1, 1980 through June 30, 1981.

The attached SALP report for your facility is being issued and distributed in accordance with recently established NRC policy. Although this report was prepared under previous criteria, the results have been reclassified under present guidance.

No reply to this letter is required. Your cooperation is appreciated.

Sincerely,

Original Signed By:
Ronald C. Haynes
Regional Administrator

Enclosure: SALP - Evaluation Report

IE01
S
1/1

8204080303 820324
PDR ADOCK 05000277
P PDR

OFFICE	RI:DPRP	RI:DPRP	RI:DPRP	RI:DPRP	RI:REG:DEP:ADM	RI:REG:ADM
SURNAME	McCabe/clc	Brunner	Keimig	Starostecki	Allan	Haynes
DATE	3/16	3/16/82	3/16/82	3/17/82	3/17	3/21/82

NRC FORM 318 (10-80) NRCM 0240

OFFICIAL RECORD COPY

cc w/encl:
J. S. Kemper, Vice President, Engineering and Research
S. L. Daltroff, Vice President, Electric Production
W. T. Ullrich, Station Superintendent
Troy B. Conner, Jr., Esquire
Eugene J. Bradley, Esquire
Raymond L. Hovis, Esquire
Michael J. Scibinico, II, Assistant Attorney General
Public Docket Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
NRC Resident Inspectors
Commonwealth of Pennsylvania
H. Abelson, NRR, LPM
M. Fairtile, NRR, LPM

bcc w/encl:
Region I Document Room (with concurrences)

OFFICIAL RECORD COPY

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

Philadelphia Electric Company

Peach Bottom Units 2 and 3 (Operations Phase)

Limerick Units 1 and 2 (Construction Phase)

Region I

PERFORMANCE EVALUATION

Evaluation Period: 7/1/80 - 6/30/81

Board Date: August 10, 1981

FOREWARD

The Region I SALP Board performed this assessment prior to the decision of the Nuclear Regulatory Commission to revise the NRC's program of Systematic Assessment of Licensee Performance. An important change in this revision was to retitle and redefine the performance categories. This change affords better characterization of the staff's evaluations of licensee performance. These revised performance categories were used for this report. The SALP Board formally evaluated the licensee's performance before the revised guidance was available. These initial rankings were subsequently equated with and converted to the new performance categories without formally reconvening the Board.

The performance categories are to be printed in the Federal Register within a few weeks. Each functional area evaluated is characterized as being in one of the following categories:

a. Category 1: Reduced NRC attention may be appropriate. Licensee management attention and involvement are aggressive and oriented toward nuclear safety; licensee resources are ample and effectively used such that a high level of performance with respect to operational safety or construction is being achieved.

b. Category 2: NRC attention should be maintained at normal levels. Licensee management attention and involvement are evident and are concerned with nuclear safety; licensee resources are adequate and are reasonably effective such that satisfactory performance with respect to operational

safety or construction is being achieved.

c. Category 3: Both NRC and licensee attention should be increased. Licensee management attention or involvement is acceptable and considers nuclear safety, but weaknesses are evident; licensee resources appear to be strained or not effectively used such that minimally satisfactory performance with respect to operational safety or construction is being achieved.

In characterizing the licensee's performance in a functional area as being in one of the Categories, performance is evaluated against the following criteria:

a. Management involvement in assuring quality,
b. Approach to resolution of technical issues from safety standpoint,
c. Responsiveness to NRC initiatives,
d. Enforcement history,
e. Reporting and analysis of reportable events,
f. Staffing (including management), and
g. Training effectiveness and qualification.

PEACH BOTTOM UNITS 2 and 3
PERFORMANCE EVALUATION AND ACTION PLAN
August 10, 1981

REGION I

LICENSEE PERFORMANCE EVALUATION (OPERATIONS)

Facility: Peach Bottom 2 and 3

Licensee: Philadelphia Electric Company

Facility Information:

Docket No.	License No./Date of Issuance	Unit No.
50-277	DPR-44/August 8, 1973	2
50-278	DPR-56/July 2, 1974	3

Reactor Information:	Unit 2	Unit 3
NSSS	General Electric	General Electric
MWt	3293	3293

Appraisal Period: July 1, 1980 to June 30, 1981

Appraisal Date: August 10, 1981

Review Board:
J. M. Allan, Deputy Director, Region I
E. J. Brunner, Acting Director, Division of Resident and Project Inspection, Region I
M. Fairtile, Licensing Project Manager, NRR
R. R. Keimig, Chief, Projects Branch #2, DRPI
T. T. Martin, Director, Division of Engineering and Technical Inspection, Region I
G. L. Snyder, Acting Director, Division of Emergency Preparedness and Operational Support, Region I

Attendees:
E. C. McCabe, Jr., Chief, Reactor Projects Section 2B, DRPI
C. J. Cowgill, Senior Resident Inspector, Peach Bottom
A. R. Blough, NRC Resident Inspector, Peach Bottom
D. P. Allison, D/OIE
H. E. Schielling, AEB, NRR

PERFORMANCE DATA

A. Number and Nature of Noncompliance Items

1. Noncompliance Category:

	Unit 2 unique	Unit 3 unique	Common	Unit 2 Total	Unit 3 Total	Facility Total
Violations	0	0	0	0	0	0
Infraction	3	2	6	9	8	11
Deficiencies	3	1	2	5	3	6
Severity Level I	0	0	0	0	0	0
Severity Level II	0	0	0	0	0	0
Severity Level III	0	0	1	1	1	1
Severity Level IV	6	0	2	8	2	8
Severity Level V	1	2	7	8	9	10
Severity Level VI	0	0	2	2	2	2
Totals	13	5	20	33	24	38

2. Areas of Noncompliance:

See pages 1-A-1 and 1-A-2.

B. Number and Nature of Licensee Event Reports

1. Tabular Listing:

Type of Events:	Unit 2	Unit 3	Total
A. Personnel Error	9	0	9
B. Design/Man./Const./Install.	10	1	11
C. External Cause	0	0	0
D. Defective Procedure	1	1	2
E. Component Failure	35	25	60
X. Other	6	3	9

Licensee Event Reports Reviewed (Report Nos.):

Report No. 2-80-11/1T through 2-81-35/1P (Unit 2), and
Report No. 3-80-15/3L through 3-81-12/3L (Unit 3)

Security Event Reports Reviewed - (Number of Events) - 9

2. Causal Analysis

Three sets of common mode events were identified.

a. LERs 277/2-81-20/3L, 2-81-17/3L, 2-81-08/3L, 2-80-21/3L, 2-80-19/3L and 278/3-80-25/3L involved failure of a Dymo type solenoid valve used in drywell oxygen analyzer systems on both units. This valve type has required significant repair. No failures have occurred since March 25, 1981.

b. LERs 277/2-81-03/3L, 2-80-36/3L, 2-80-22/3L, 2-80-18/3L, 278/3-80-05/3L, and 3-79-16/3L reported instrument drift on Barton Model 288 differential pressure switches. Licensee states that this type switch is being replaced by Rosemont equipment.

c. LERs 277/2-81-15/3L, 2-81-12/3L, 2-81-06/3L, 278/3-81-07/3L, 3-80-29/3L, 3-80-01/3L, and 3-79-17/3L report instrument zero drift on main steam line radiation monitors.

C. Escalated Enforcement Actions

Civil Penalties: None

Orders: None

Immediate Action Letters

IAL 80-23 dated July 23, 1980 - Subject: Automatic Backup Scram Feature Inoperability

IAL 81-18 dated April 7, 1981 - Subject: Radioactive Releases on March 30 and 31

IAL 81-19 dated April 16, 1981 - Subject: Three Isolated Drywell Pressure Transmitters at Peach Bottom Unit 2

D. Management Conferences Held

A SALP Cycle I management meeting was held on June 22, 1980.

One meeting held at licensee's request on 3/24/81, at Region I, to discuss licensee plans for improving operational safety and performance.

E. Licensee Activities

Peach Bottom 2 - Shutdown from 7/1/80 to 8/9/80 for refueling and modification. Modifications included Mark I containment long term upgrade, core spray piping changes, feed water sparger changes, capping CRD return.

E. Licensee Activities (Continued)

Plant operated at power from 8/15/80. Plant was shut down from 4/22/81 to 6/22/81 for repair of 'B' Recirculation Pump Motor (seized), High Pressure Service Water Piping (pinhole leaks), and repair of a main transformer (high combustibles in oil).

Peach Bottom 3 - Operated from 7/1/80 to 3/6/81, then shutdown for refueling and modifications, (Restart expected in September). Modifications included Mark I Containment upgrade, Scram Discharge Volume piping changes, core spray piping changes, and removal of Recirculation System bypass lines.

F. Inspection Activities

a. SALP Cycle 1 and Cycle 2 Gap (5/1/80 - 6/30/80)

Health Physics appraisal team conducted inspection June 1980.

b. SALP Cycle 2

Two NRC residents onsite for entire assessment period.

Total NRC man-hours inspection: 1890 (resident and region-based inspectors)

c. Other Noteworthy Inspections

Institute of Nuclear Power Operations conducted inspection in December 1980.

G. Investigations

There were no formal investigations during this assessment period.

Allegations regarding security and health physics, received through news media during a security force labor dispute, were followed up by the resident inspector in May, 1981. The allegations were not substantiated.

Allegations regarding security force weapons requalification were followed up by a region-based security specialist in June, 1981. The specific allegations were not substantiated, but one noncompliance was identified for exceeding the permissible weapons requalification period.

H. Cycle I and Cycle 2 SALP Gap (5/1/80 - 6/30/80)

One security inspection identified eight items of noncompliance. The health physics appraisal identified one noncompliance for inadequate radiac survey instrument calibrations. The June 1980 resident inspection report identified one deficiency for failure to log in-line valve position for an inoperable containment isolation valve (the valve was closed as required).

LERS (Gap)	U-2	U-3	Total
A (Personnel error)	0	1	1
B (Design/Fab. error)	0	1	1
C (External)	0	1	1
D (Procedures)	2	0	2
E (Component Failure)	0	1	1
X (Other)	0	1	1

LERS included:

Unit 2 - 2-80-09/IT and 2-80-10/IT
Unit 3 - 3-80-09/3L to 3-80-13/3L

I. NONCOMPLIANCE AREAS

Facility Name Peach Bottom Unit 2

Functional Area	Noncompliances and Deviations: Severity Level I	II	III	IV	V	VI	Classification Vio.	Inf.	Def.	Dev.
1. Plant Operations	0	0	0	4	1	0	0	1	0	0
2. Refueling Operations	0	0	0	0	0	0	0	0	0	0
3. Maintenance	0	0	0	0	0	0	0	0	0	0
4. Surveillance & Inservice testing	0	0	0	0	0	0	0	0	0	0
5. Personnel, training & plant procedures	0	0	0	0	(1)*	0	0	1	0	0
6. Fire protection & housekeeping	0	0	0	0	0	0	0	1	0	0
7. Design changes & modifications	0	0	0	0	0	0	0	0	0	0
8. Radiation protection, radiation waste management, & transportation	0	0	(1)	2+(1)*	(1)	0	0	0	2	0
9. Environmental Protection	0	0	0	(1)*	0	(2)	0	0	0	0
10. Emergency Preparedness	0	0	0	0	0	0	0	0	0	0
11. Security & Safeguards	0	0	0	0	(4)*	0	0	(5)	(1)	0
12. Audits, reviews, & committee activities	0	0	0	0	0	0	0	0	0	0
13. Administration, QA, records, procurement	0	0	0	0	(1)*	0	0	(1)	0	0
14. Corrective actions & reporting	0	0	0	0	0	0	0	0	1+(1)	0
Totals	0	0	(1)	6+(2)	1+(7)	(2)	0	3+(6)	3+(2)	0

Total Noncompliances = 13 & (20)

Note: Noncompliances applicable to Units 2 & 3 shown in parentheses.

*Includes an item not yet issued (inspection completed, report pending)

J. NONCOMPLIANCE AREAS

Facility Name Peach Bottom Unit 3

Functional Area	Noncompliances and Deviations: Severity Level I	II	III	IV	V	VI	Classification: Vio.	Inf.	Def.	Dev.
1. Plant Operations	0	0	0	0	0	0	0	0	0	0
2. Refueling Operations	0	0	0	0	0	0	0	0	0	0
3. Maintenance	0	0	0	0	0	0	0	0	0	0
4. Surveillance & Inservice testing	0	0	0	0	0	0	0	0	0	0
5. Personnel, training & plant procedures	0	0	0	0	(1)*	0	0	0	0	0
6. Fire protection & housekeeping	0	0	0	0	0	0	0	0	0	0
7. Design changes & modifications	0	0	0	0	1	0	0	1	0	0
8. Radiation protection, radiation waste management, & transportation	0	0	(1)	(1)*	1+(1)	0	0	1	0	0
9. Environmental Protection	0	0	0	(1)*	0	(2)	0	0	0	0
10. Emergency Preparedness	0	0	0	0	0	0	0	0	0	0
11. Security & Safeguards	0	0	0	0	(4)*	0	0	(5)	(1)	0
12. Audits, reviews, & committee activities	0	0	0	0	0	0	0	0	0	0
13. Administration, QA, records, procurement	0	0	0	0	(1)*	0	0	(1)	0	0
14. Corrective actions & reporting	0	0	0	0	0	0	0	0	1+(1)	0
Totals	0	0	(1)	(2)	2+(7)	(2)	0	2+(6)	1+(2)	0

Total Noncompliances = 5 + (20)

Note: Noncompliances applicable to Units 2 & 3 shown in parentheses.

*Includes an item not yet issued (inspection completed, report pending)

PEACH BOTTOM ATOMIC POWER STATION

Unit Nos. 2 and 3

PERFORMANCE ANALYSIS SUMMARY

Functional Areas	Category 1	Category 2	Category 3
1. Plant Operations		x	
2. Refueling Operations	x		
3. Maintenance		x	
4. Surveillance and Inservice Testing	x		
5. Personnel, Training, and Plant Procedures		x	
6. Fire Protection and Housekeeping			x
7. Design Changes and Modifications	x		
8. Radiation Protection, Radioactive Waste Management, and Transportation		x	
9. Environmental Protection		x	
10. Emergency Preparedness		x	
11. Security and Safeguards		x	
12. Audits, Reviews, and Committee Activities		x	
13. Administration, QA, and Records		x	
14. Corrective Actions and Reporting	x		

FUNCTIONAL AREA PERFORMANCE ANALYSIS

1. Plant Operations

a. Cycle 1

Four noncompliances were identified related to housekeeping and failure to limit Containment Isolation Valve opening. Operating staff appears professional and competent. An Operations Engineer added to the staff before this period has been a strength. Resident Inspector had concerns about adequacy of communications between licensed and non-licensed operating staff, and on communications between plant management and operating staff.

b. Cycle 2 (630 hr., 33%)

Six noncompliances.

(1) Infraction - Off-gas monitors not in service during power operations. (inspector identified)

(2) Severity IV - Allowable plant cooldown rate (100 F/hr) was exceeded by 2 degrees for one hour. (reported by licensee)

(3) Severity IV - Scram setpoints not adjusted for maximum fraction of limiting power density greater than fraction of rated power. Occurred during control rod exchange and lasted 6 hours. Maximum out of tolerance was 5%. No safety limits were exceeded. (inspector identified)

(4) Severity IV - Failure to take technical specification required actions for inoperable RPS and PCIS instruments (High Drywell Pressure). (IAL 81-19) (reported by licensee)

(5) Severity IV - Failure to take technical specification required action for inoperable Emergency Core Cooling System instruments (High Drywell Pressure). (IAL 81-19) (reported by licensee)

(6) Severity IV - Failure to establish primary containment prior to exceeding 212 F (May, 1981). Maximum temperature was 231 F. Period above 212 F was 2.5 hours. (inspector identified)

During this assessment period, there were two refueling outages in which major plant modifications were made. These involved licensee management and control of up to 1600 personnel each day for a high level activity, and the associated problems with control of operations at these large BWR facilities. The total number of noncompliances is not considered abnormal for site conditions and an aggressive inspection program.

Senior site management routinely observes station activities. Operational events are comprehensively analyzed and reacted to.

Resident inspector discussions and observations indicate that communications problems continue to exist between licensed and non-licensed operators and between operating shift and plant management.

A HPCI room flooding event in April, 1981 raised concerns regarding control of plant activities. Considerable licensee management attention has been focused on this event -- some corrective actions have been completed; others are pending.

Improved direct on-shift supervision of operations in progress (in addition to counseling of operators) and improved interdepartmental communications should decrease noncompliances and events.

c. Conclusion

Category 2

2. Refueling Operations

a. Cycle 1

One noncompliance (deficiency) was identified: failure to maintain mode switch locked while performing core alterations. One additional noncompliance related to fuel inspections. Licensee has installed high density fuel racks. Shift coverage and SRO responsibilities for refueling activities were acceptable. Health Physics personnel appeared to be working long hours during facility outages. (12 hours per day, 6 days a week)

b. Cycle 2 (58 hr., 3%)

Areas identified in Cycle I were aggressively pursued by the licensee. Inspections of refueling operations by specialist inspectors and the resident inspectors indicated that operations were conducted in a competent, professional manner. There were no items of noncompliance and no problem areas identified in three inspections of this area. The resident inspectors consider licensee supervision of refueling evolutions to be a noteworthy strength.

c. Conclusion

Category 1

3. Maintenance

a. Cycle 1

Two noncompliances (identical infraction for each unit) were identified: failure to adequately maintain maintenance documents. Two unresolved items (identical issue associated with each unit) were identified for maintenance of stored electric motors. The licensee's response was acceptable. Corrective action had not yet been verified. Plant operating experience indicated numerous examples of inoperable instrumentation and equipment. This was also highlighted in LER Statistics regarding component failures and installation problems. Licensee had encountered numerous Recirculation Pump Seal problems and had operated with FW pump problems. Resident inspector believed that onsite maintenance management required more effort "in plant".

b. Cycle 2 (58 hr., 3%)

One region-based specialist inspection was conducted during March 1981 (report unissued). Additionally, the resident inspector conducted a partial programmatic review in October 1980, with no noncompliances identified.

Resident observations and inspection early in the evaluation period identified no substantial inadequacies. The March 1981 maintenance inspection by a Region I specialist was an abbreviated one. Generally, inoperable instrumentation has been reduced. Problems still exist with some indicators remaining in an alarmed condition for long periods of time. On one occasion (inoperable low oil level alarm), this contributed to an extended outage to repair a recirculation pump motor. Inadequate coordination of maintenance contributed to a noncompliance (exceeded 212 F without primary containment) when RHR maintenance took longer than expected and problems were experienced while restoring RHR (clearing tagouts). This noncompliance was assigned to area 1 (Plant Operations).

A noteworthy strength is Peach Bottom access to a large PECo maintenance force. Peach Bottom does not rely heavily on contractors.

Improved first level supervision of maintenance and more comprehensive operating staff review of maintenance should improve this area.

c. Conclusion

Category 2

4. Surveillance and Inservice Testing

a. Cycle 1

Five items of noncompliance (Infractions) were identified for improper performance of surveillance tests, failure to perform required surveillance, failure to meet periodicity requirements for surveillance tests, and improper documentation of surveillance tests. The resident inspector considered these attributable to inadequate review of surveillance by Results Engineering, with personnel turnover a significant factor. Unresolved items were also identified concerning the adequacy of certain surveillance tests and the manner in which surveillance test data was documented. The planned ADP system for monitoring surveillance may improve this area.

b. Cycle 2 (91 hr., 5%)

Two ISI specialist inspections were conducted with no noncompliances or problem areas. The resident inspectors reviewed this area during routine inspections and identified no noncompliances or problem areas. The licensee is improving local leak rate testing capability by adding test connections for valves which previously could not be tested.

There is one unresolved item relating to TMI Action Plan items. Some checks for coolant leakage outside containment were not performed in the third quarter of 1980. Additionally, the resident inspectors observed insufficiently accurate test gauges in use on one occasion.

c. Conclusion

Category 1

5. Personnel, Training and Plant Procedures

a. Cycle 1

(1) Training

Four items of noncompliance (two identical infractions per unit) were identified: ROs and SROs review of emergency procedures not documented; radiation worker did not adhere to instructions on a posted Radiation Work Permit. Two unresolved items (identical item for each unit): failure to transmit modification information to management operations and training personnel. The resident inspector believed that general employee training needed upgrading, particularly in the area of radiation protection and security. The licensee response to the items of noncompliance was acceptable.

(2) Personnel and Procedures

Four items of noncompliance (Infractions) related to failure to control checkoff lists, assure that checkoff lists were completed, and failure to provide administrative controls over round sheets designed to assure seismic capability of containment isolation valves was not compromised. Update of licensee commitment to obtain further I&C personnel to eliminate the high number of alarmed conditions, and to expedite clearing of maintenance request items, was slow.

b. Cycle 2 (116 hr., 6%)

The resident inspectors reviewed this area during routine inspections. One specialist inspection was conducted on training in December 1980. There were two items of noncompliance relating to personnel, procedures, and training.

Infraction - One individual breached secondary containment by blocking both the inner and outer doors open while removing scaffolding material.

Severity V - Failure to have procedures for calibration of the computer based gamma spectroscopy system.

The licensee has initiated new nuclear plant rules designed to reduce individual error. Additionally, quality of General Employee Training improved during the evaluation period. Site newsletters also have some training value. More generic training relating to violations and problems could improve training program effectiveness. Also, more energetic licensee enforcement of site procedural requirements (no smoking areas, fire doors, secondary containment, control room access, housekeeping, security) is indicated.

Instructions to operators on the extensive design changes and modifications were provided during one session for all refueling outage items. Additionally, some modifications have been implemented over an extended period of time, resulting in potential confusion to the operators. (Ex: Containment Ventilation Valves).

c. Conclusion

Category 2

6. Fire Protection and Housekeeping

a. Cycle 1

Three noncompliances: Failure to establish fire watch with fire detection system disabled; failure to seal fire barrier; failure to maintain fire barrier. Two unresolved items: Procedural coverage for open flame operations; procedural development for fire protection equipment maintenance. Fire protection inspector believed licensee performance had improved. Resident Inspector believed that a history of delays in meeting commitments was a problem.

b. Cycle 1 and Cycle 2 Gap

One item of noncompliance was identified for failure to maintain fire zones clear. One fire in Unit 2 Drywell resulted in work stoppage and significant drywell cleanup prior to resumption of outage activities.

c. Cycle 2 (32 hr., 1.7%)

One noncompliance for failure to follow housekeeping procedures for drywell cleanliness prior to return to power.

Resident inspector observations indicate that housekeeping does not receive priority attention and that efforts initiated in the fall of 1980 to improve overall housekeeping conditions have resulted in minimal improvement. The residents believe that the recent, lengthy two unit outage has had an adverse effect.

Resident observations indicate that contract janitorial services are reduced soon after outages and before restoration of good cleanliness. The residents have, on occasion, found fire doors left open for convenience of personnel. Corrective actions appear to have been acceptable.

d. Conclusion

Category 3

7. Design Changes and Modifications

a. Cycle 1

One noncompliance. Prompt corrective action not taken to resolve audit findings, take corrective actions, and required auditor followup. Region I Construction Branch and Operations Branch personnel concurred that management support and engineering support for design changes, modifications, and response to IE Bulletins was a notable strength.

b. Cycle 2 (43 hr., 2.3%)

Two specialist inspections were performed in this area. The resident inspectors also reviewed this area. Two items of noncompliance were identified.

Infraction - Failure to repair a snubber in the specified time.

Severity V - Failure to obtain shift permission prior to commencing work.

The licensee thoroughly researches proposed changes and pursues problem areas aggressively. During the installation of the acoustic monitoring system required by IE Bulletin 80-17, the licensee expended considerable effort resolving design and installation problems associated with the new equipment. The licensee is also currently pursuing a valve monitoring program using computer technology. Technical input to NRR has been identified as a noteworthy strength.

c. Conclusion

Category 1

8. Radiation Protection, Radioactive Waste Management, and Transportation

a. Cycle 1

(1) Radiation Protection

Twelve noncompliances (4 in reports not yet issued): Respiratory equipment qualification certification issued without training, no documentation of respiratory protection equipment program review, MPC hours were not logged for three individuals, 3 examples of failure to comply with Radiation Work Permit instructions, failure to complete required checklist, failure to post procedure at Radwaste Panel. Resident Inspector and Project Section Chief considered the noncompliances to be due to frequency of observation and the tempo of activity ,and not representative of a higher than normal rate of noncompliance. There were repeated discrepancies between monthly vendor evaluated TLD data and licensee evaluated data. Long work hours for Health Physics technicians during outages were of concern because of the potential for error when personnel are fatigued.

(2) Transportation and Radwaste Management

Four clear inspections of receipt of radwaste at disposal sites. Resident inspector observations of shipment preparations on several occasions identified no noncompliances.

Routine review of radwaste operations by the resident inspector identified no problems. This area was scheduled for future review by the health physics review team.

b. Cycle 1 to Cycle 2 Gap

Health Physics Appraisal

The health physics appraisal conducted in June-July 1980 revealed five weaknesses in the program and one item of noncompliance. The noted weaknesses were: No ALARA program, heavy reliance on contractor health physics personnel, lack of technical proficiency in some members of the professional staff, no quality assurance/quality control program for dosimetry activities, and lack of formal definition of the authorities and responsibilities of members of the health physics organization. The noncompliance was for failure to conduct surveys for alpha radiation. The licensee's written reply to the findings was deemed adequate. One radwaste problem was identified; the effluent monitors had not been calibrated over their full range.

c. Cycle 2 (163 hr., 9%)

Resident and region-based operations inspectors, through routine and independent inspection effort, identified four items of noncompliance:

Severity IV - Failure to have required dose rate meter in a high radiation area (resident inspector identified).

Infraction - Failure to obey posted radiation signs (resident inspector identified).

Deficiency - Inadequate posting of radiation areas (region-based operation specialist identified).

Deficiency - Failure to follow procedures regarding issuing and wearing dosimetric devices (region-based operations specialist identified).

Region based HP specialist inspection* of outage HP identified one noncompliance for failure to wear dosimetry (erroneously removed as an electrical safety precaution). Region-based HP specialist inspection* of HP procedure adherence identified two noncompliances #improper air sampling and two examples of HP procedure violations (improper training in the use of airline Bullards and failure to sign in on RWPs)$. Overall Region I concluded that the HP problems were not severe, that licensee corrective actions have been effective, and that improved supervision of activities in progress should effect further improvement in HP procedure adherence.

A total of eight transportation inspections were performed: six at Barnwell, South Carolina (no noncompliances); one at the Beatty, Nevada burial site (one Severity III noncompliance for inadequate LSA shipment packaging); and one at Peach Bottom (no noncompliances).

The noncompliance at Beatty involved loose locking rings on two low level waste containers. The Beatty, Nevada burial site barred Philadelphia Electric from use of the burial site until controls and procedures had been strengthened. In February 1981, a Region I specialist reviewed procedures and inspected packaging and transportation onsite and identified no items of noncompliance. NRC informed Nevada that the licensee had implemented adequate quality control procedures, and Nevada reinstated the licensee's burial license.

*Report(s) not yet issued

There were no region-based inspections of radwaste management. One noncompliance was identified by the resident inspectors; Severity V - Conduct of radwaste operations without an approved procedure, resulting in a 625 gallon unplanned liquid release (reported by the licensee).

The licensee committed to extensive corrective action (IAL 81-18). The residents have noted increased temporary onsite storage of radioactive waste and believe the licensee must actively seek solution of this problem.

Some easing of Health Physics Technician working hours has occurred.

d. Conclusion

Category 2

9. Environmental Protection

a. Cycle 1

One noncompliance (Instantaneous release rate exceeded). No inspections dedicated to environmental topics conducted.

b. Cycle 2 (37 hr., 2%)

One routine inspection by a region-based inspector was conducted. This area was also inspected by the resident inspectors. Three noncompliances were identified (1 by the licensee, 2 by region-based specialists).

Severity IV - Release of radioactive noble gas above TS limits (licensee identified and reported).
Severity VI - Failure to take samples during chlorination.
Severity VI - Failure to adequately calibrate chlorine analyzers.

7 other unplanned noble gas releases (well below TS limits) from the off-gas system occurred. Licensee reviews and modifications of the off-gas system are continuing. More stringent controls on off-gas system activities (e.g., more locked valves, valve torquing, extensive pre-work briefings for maintenance workers) appear appropriate.

c. Conclusion

Category 2

10. Emergency Preparedness

a. Cycle 1

No inspection data was available. Resident Inspectors witnessed Emergency Drill including offsite response. Licensee performance with respect to emergency drill was satisfactory. One minor problem was identified with respect to communication capability at Unit 1 (garbled speaker). Emergency Plan was undergoing NRC review for conformance to current standards.

b. Cycle 2 (10 hr., 0.5%)

Emergency planning was reviewed as part of the Health Physics appraisal conducted in June and July of 1980. Concerns about emergency planning, organization, training, notification, and implementing procedures were stated during that inspection. Those concerns were evaluated as not requiring immediate NRC actions to effect an upgrade. The Emergency Plan has since been rewritten and submitted to the NRC.

The resident inspector witnessed the annual Emergency Plan drill in December 1980 and found licensee performance satisfactory.

There were no emergency plan noncompliances. One unresolved item was identified in June 1981, during specialist and resident inspector review of an unplanned, 2 curie noble gas release, for inconsistencies between the emergency plan and implementing procedures.

With respect to emergency notifications and instructions to the public, the NRC-specified July 1, 1981 implementation date was not met. A PECo letter to NRC:NRR, dated April 28, 1981, detailed implementation difficulties and requested an extension to July, 1982. By July 1, 1981, the following had been accomplished.

-- A site-specific survey was completed and evaluated; the required numbers, sizes, and locations of sirens were revised.

-- A test program, involving installation and testing of two sirens, was completed. Based on audibility and public acceptance data, the preliminary design was reevaluated.

-- Specifications were prepared and reviewed with county emergency management personnel to ensure compatability with county equipment.

-- An appropriation request for the equipment was submitted for management approval.

Appropriation was authorized on July 7, 1981. Vendor bids were requested, received, and evaluated; a contract was awarded on September 3, 1981. The licensee originally expected to have sirens operational in the 0-5 mile zone by February, 1982, and in the 5-10 mile zone by July, 1980; and is trying to accelerate implementation to meet a February, 1982 target date.

The Emergency Planning appraisal team is scheduled to assess the licensees implementation of the new emergency planning requirements by April 1982.

c. Conclusion

Category 2

11. Security and Safeguards

a. Cycle 1

Eleven noncompliances: No CAS power source indication; vital area door open (2); ignition key in untended vehicle; unescorted visitor; drills not conducted; no barrier between vital and protected area; inadequate protected area lighting; badge issued to wrong person; inoperative metal detector; keys/locks unchanged upon termination of employee. Numerous discrepancies were identified beween facility Security Plan and current standards.

b. Cycle 2 (331 hr., 18%)

Licensee performance improved significantly.

Region-based specialists conducted three routine and three special inspections. The Resident Inspectors also periodically reviewed security program functions. Ten noncompliances were identified.

(a) Infraction - Failure to properly control a licensee designated vehicle while within the protected area.

(b) Infraction - Issuance of non-picture badges for periods exceeding seven days. These badges were used to identify personnel authorized unescorted access to the protected area.

(c) Infraction - Use of non-picture badges to grant unescorted access to vital area.

(d) Deficiency - Failure to maintain a log indicating the reason for entry of individuals granted unescorted access to normally unoccupied vital areas.

(e) Infraction - Failure to provide proper escort for a visitor within the protected area.

(f) Severity V - Failure to provide proper escort for a visitor within the protected area.

(g) Severity V - Failure to properly control a vehicle within the protected area.

(h) Severity V - Failure to provide proper escort for a visitor

(i) Severity V - Failure to properly control a licensee designated vehicle within the protected area.

(j) Severity V - Failure to requalify six guards with their firearms within the required thirteen-month period. (Report not yet issued.)

Two recent routine security specialist inspections (February and April, 1981) identified no noncompliances.

Two special security inspections in May 1981, during a strike by part of the contract security force (Burns Security), identified no noncompliances. A third special inspection was performed June 9-12, 1981 in response to several security-related allegations. Item (j) above resulted.

Only one noncompliance was identified during the last five inspections, indicating a major performance improvement.

Conclusion

Category 2

12. Audits, Reviews, and Committee Activities

a. Cycle 1

Four Infractions and two Deficiencies (three identical items for each unit): audit reports not issued within 30 working days; corrective action on audit findings not accomplished within required time frame; and Respiratory Protection Program review not being done. One unresolved item was opened and a previous unresolved item was followed up and remains open: QA Plan and procedure revision to more clearly describe how O&SR Committee accomplishes annual QA Program review; Inspector to review content and scope of Electrical Production QA audit of E&R organizations to determine adequacy of the audit.

The licensee's response to the items of noncompliance was acceptable, but corrective action implementation was not yet verified. The identified areas indicated a failure to properly implement audit and review responsibilities by both Quality Assurance and Plant Management.

b. Cycle 2 (15 hr., 0.8%)

No noncompliances were identified. Detailed program status review was not accomplished due to lack of NRC Region I resources.

Inadequacies identified During Cycle I inspections were addressed and corrected by the licensee. The licensee has taken a more aggressive approach to timeliness of audit reports and followup of corrective actions. A computer system is used for tracking audit findings. QA program review responsibilities have been clearly defined. Priority has been given to maintaining a sufficient number of trained auditors to adequately implement the program.

c. Conclusion

Category 2

13. Administration, QA and Records

a. Cycle 1

Three Infractions (one is applicable to both units): failure to initiate corrective action for nonconforming hanger base plates (Unit 3); failure to distribute and use applicable procedures at the work location. Eighteen URIs were also opened addressing general QA Program areas such as organization, procedures, etc. Review of licensee corrective action was pending.

b. Cycle 2 (14 hr., 0.7%)

Two specialist inspections and routine inspections by the residents touched upon this area. The number of outstanding items has been reduced. Two noncompliances were identified.

Infraction - Out-of-date procedures posted for use at remote shutdown panels.

Severity V - Inadequate administrative control of maintenance and records (multiple examples).

The item relating to out-of-date procedures was recurrent (but not considered typical). The licensee has since reviewed and improved control of procedures. The licensee's program for upgrading maintenance records storage has proceeded slowly. Most surveillance tests and historical records requested by the resident inspectors have been retrieved and provided promptly.

c. Conclusion

Category 2

14. Corrective Actions and Reporting

a. Cycle 1

One noncompliance (Deficiency) related to internal licensee reports and designation of appropriate individuals for receipt. One IFI item concerning resubmittal of an LER to accurately reflect plant conditions. Corrective action was completed. Licensee did not hesitate to submit reports, and did so when unrequired reports were requested. Resident inspector considered licensee responsiveness to NRC reporting requirements to be an asset. Licensee implemented 10 CFR 50.72 prompt reporting requirements immediately via guidance from Resident Inspector.

b. Cycle 2 (292 hr., 15%)

Corrective action and reporting were reviewed during resident inspections on a routine basis. Three noncompliances were identified.

Deficiency - Failure to report technical specification related equipment made inoperable due to seismic re-analysis. The unit involved was shutdown at the time.

Deficiency - Thermal mapping reports were not submitted to the NRC in the required time.

Deficiency - Two license events required to be reported in thirty days were not submitted for sixty days.

The noncompliances relate to the administrative processing function. A "tracking" system could improve that performance. The licensee cooperates fully in reporting problems and has, on several occasions, reported potential problems in information letters when no formal reporting requirements existed. The positive licensee responsiveness to NRC reporting requirements is noteworthy. Quality of corrective actions is a noteworthy strength.

c. Conclusion

Category 1

NONCOMPLIANCE DATA
Unit 2
July 1, 1980 - June 30, 1981
Cycle 2

	Noncomp. Number	Inspection Date	Subject	Reg.	Sev.	Area
	80-24-01	7/1-31/80	Failure to provide required prompt report	T/S	Def	14
	80-26-02	7/24-28/80	Failure to properly post a contamination area	T/S	Def	8
	80-26-03	7/24-28/80	Failure to possess proper dosimetric devices (2 individuals)	T/S	Def	8
	80-28-01	8/1-31/80	Failure to follow housekeeping procedures relative to drywell cleanliness	T/S	Inf	6
**	80-28-06	8/1-31/80	Thermal mapping reports late	T/S	Def	14
**	80-28-05	8/1-31/80	Failure to adequately control a designated vehicle within the protected area	Sec. Plan	Inf	11
	80-29-01	9/1-30/80	Secondary containment violation	T/S	Inf	5
**	80-29-05	9/1-30/80	Failure to follow escort procedures	Sec. Plan	Inf	11
**	80-30-01	9/22-26/80	Failure to log reason for entry into normally unoccupied vital areas	Sec. Plan	Def	11
**	80-30-02	9/22-26/80	Failure to limit unescorted access to vital areas to those personnel with a picture badge	Sec. Plan	Inf	11
**	80-30-03	9/22-26/80	Failure to limit use of non-picture badges for unescorted access to seven days	Sec. Plan	Inf	11
**	80-32-02	10/1-11/7/80	Out-of-date procedures at remote shutdown panel	B-V	Inf	13

** Common to both units

Unit 2 (Continued)

	Noncomp. Number	Inspection Date	Subject	Reg.	Sev.	Area
	80-33-01	11/8-30/80	Failure to have off-gas monitors in service	T/S	Inf	1
**	80-33-03	11/8-30/80	Failure to follow escort procedures	Sec Plan	Inf	11
	80-35-04	12/1-31/80	Exceeded TS - allowable cooldown rate	T/S	4	1
	80-35-05	12/1-31/80	Failure to have radiation meter with personnel in high rad area	T/S	4	8
**	80-36-01	11/5/80	Licensee delivered LSA material, which was not packaged in strong, tight containers, to a carrier	10CFR71	3	8
**	81-01-01	1/12-15/81	Failure to review and approve written procedure for calibration of computer based gamma spectroscopy system for effluent analyses	T/S	5	5
**	81-02-07	1/14-20/81	Failure to collect condenser chlorine samples	T/S	6	9
**	81-02-08	1/14-20/81	Failure to calibrate chlorine analyzer	T/S	6	9
	81-03-03	1/1-31/81	Scram Setpoint exceeded for MFLPD greater than reactor power	T/S	4	1
**	81-03-05	1/1-31/81	Failure to follow escort requirements (Personnel)	Sec. Plan	5	11
**	81-03-06	1/1-31/81	Failure to follow escort requirements (vehicle)	Sec. Plan	5	11
	81-07-02	3/1-4/7/81	Radwaste collection operations without approved procedure	T/S	5	8
	81-07-08	3/1-4/7/81	Failure to take tech spec required action for inoperable RPS and PCIS instruments (high drywell pressure)	T/S	4	1

** Common to both units

Unit 2 (Continued)

	Noncomp. Number	Inspection Date	Subject	Reg.	Sev.	Area
	81-07-09	3/1-4/7/81	Failure to take required action for inoperable ECCS instruments (high drywell pressure)	T/S	4	1
**	81-07-10	3/1-4/7/81	Failure to follow escort procedures (vehicle)	Sec. Plan	5	11
(**) (*)	81-10-01	4/15-17/81	Inadequate air sampling	10 CFR 20	4	8
(**) (*)	81-10-02	4/15-17/81	Failure to follow HP procedures	T/S	5	8
(**) (*)	81-12-01	5/4-8/81	Inadequate records of maintenance activities and inadequate corrective action an previous inspection findings	T/S	5	13
	81-14-01	5/1-31/81	Reactor coolant temperature above 212F without primary containment	T/S	4	1
(**) (*)	81-16-02	6/1-30/81	Release rate exceeded technical specification allowable for 7 minutes	T/S	4	9
(**) (*)	81-17-01	Special	Weapons requalifications overdue	Sec. Plan	5	11

* report not issued
** common to both units

NONCOMPLIANCE DATA
Unit 3
July 1, 1980 - June 30, 1981
Cycle 2

	Noncomp. Number	Inspection Date	Subject	Reg.	Sev.	Area
	80-18-01	7/21-31/80	Failure to repair tech spec snubber in required time	T/S	Inf	7
	80-20-02	8/1-31/80	Failure to submit written reports within 30 days of reportable occurrence	T/S	Def	14
**	80-20-06	8/1-31/80	Thermal mapping reports late	T/S	Def	14
**	80-20-05	8/1-31/80	Failure to adequately control a designated vehicle within the protected area	Sec. Plan	Inf	11
**	80-21-01	9/1-30/80	Failure to follow escort procedures	Sec. Plan	Inf	11
**	80-22-01	9/22-26/80	Failure to log reason for entry into normally unoccupied vital areas	Sec. Plan	Def	11
**	80-22-02	9/22-26/80	Failure to limit use of non-picture badges for unescorted access to seven days	Sec. Plan	Inf	11
**	80-22-03	9/22-26/80	Failure to limit unescorted access to vital areas to those personnel with a picture badge	Sec. Plan	Inf	11
**	80-24-02	10/1-11/7/80	Out-of-date procedures at remote shutdown panel	B-V	Inf	13
	80-26-02	11/8-30/80	Failure to obey posted radiation warnings	T/S	Inf	8
**	80-26-03	11/8-30/80	Failure to follow escort procedures	Sec. Plan	Inf	11

** Common to both units

Unit 3 (Continued)

	Noncomp. Number	Inspection Date	Subject	Reg.	Sev.	Area
**	80-29-01	11/5/80	Licensee delivered LSA material, which was not packaged in strong tight containers, to a carrier	CFR 71	Inf	8
**	81-01-01	1/12-15/81	Failure to review and approve written procedure for calibration of computer-based gamma spectroscopy system used for effluent analyses	T/S	5	5
**	81-02-07	1/14-20/81	Failure to collect condenser chlorine samples	T/S	6	9
**	81-02-08	1/14-20/81	Failure to calibrate chlorine analyzers	T/S	6	9
**	81-03-04	1/1-31/81	Failure to follow escort requirements (personnel)	Sec. Plan	5	11
**	81-03-05	1/1-31/81	Failure to follow escort requirements (vehicle)	Sec. Plan	5	11
*	81-07-01	2/23-25/81 3/16-18/81	Failure to wear dosimetry in a radiation area	T/S	5	8
	81-09-07	3/1-4/7/81	Failure to have shift approval during RB wall modifications	T/S	5	7
**	81-09-07	3/1-4/7/81	Failure to follow escort procedures (vehicle)	Sec. Plan	5	11
**	81-13-01	3/1-4/7/81	Inadequate maintenance of records for maintenance activities and inadequate corrective action for previous inspection findings	T/S	5	13
(**) (*)	81-11-01	4/15-17/81	Inadequate air sampling	10CFR20	4	8
(**) (*)	81-11-02	4/15-17/81	Failure to follow HP procedures cedures	T/S	5	8

* Report not yet issued
** Common to both units

Unit 3 (Continued)

	Noncomp. Number	Inspection Date	Subject	Reg.	Sev.	Area
(**) (*)	81-17-02	6/1-30/81	Release rate exceeded technical specification allowable for 7 minutes	T/S	4	9
(**) (*)	81-18-01	Special	Weapons requalifications overdue	Sec. Plan	5	11

* Report not yet issued
** Common to both units

INSPECTION HOURS SUMMARY

Functional Areas	Inspection Hours (Unit 2 and 3 Combined)	
1. Plant Operations	630	(33%)
2. Refueling Operations	58	(3%)
3. Maintenance	58	(3%)
4. Surveillance and Inservice Testing	91	(5%)
5. Personnel, Training, and Plant Procedures	116	(6%)
6. Fire Protection and Housekeeping	32	(1.7%)
7. Design Changes and Modifications	43	(2.3%)
8. Radiation Protection, Radioactive Waste Management and Transportation	163	(9%)
9. Environmental Protection	37	(2%)
10. Emergency Preparedness	10	(0.5%)
11. Security and Safeguards	331	(18%)
12. Audits, review, and Committee Activities	15	(0.8%)
13. Administration, QA, and Records	14	(0.7%)
14. Corrective Actions and Reporting	292	(15%)
	1890	

PHILADELPHIA ELECTRIC COMPANY

LIMERICK GENERATING STATION

Units 1 and 2

LICENSEE PERFORMANCE EVALUATION Region I

Facility: Limerick Generating Station, Unit Nos. 1 and 2

Licensee: Philadelphia Electric Company

Facility Information

	Unit 1	Unit 2
Docket No.:	50-352	50-353
License No :	CPPR-106	CPPR-107
Date of Issuance:	June 19, 1974	(same)
NSSS:	General Electric Company	
MWt:	3293	3293
Appraisal Period:	July 1, 1980 to June 30, 1981	
Appraisal Date:	August 10, 1981	

Review Board:

J. M. Allan, Deputy Director, Region I
E. J. Brunner, Acting Director, DRPI, Region I
G. D. Calkins, Licensing Project Manager, NRR
R. R. Keimig, Chief, RPB2, Region I
T. T. Martin, Director, DETI, Region I
G. L. Snyder, Acting Director, DEPOS, Region I

Attendees:

E C. McCabe, Chief, RPS #2B, Region I
J. P. Durr, Senior Resident Inspector, Limerick
D. P. Allison, D/OIE
H. E. Schierling, AEB, NRR
M. B. Fairtile, LPM, NRR

Performance Data

A. Number and Nature of Noncompliance Items (See Enclosure 1)

1. Noncompliance Category:

	Unit 1 Only	Unit 2 Only	Common	Unit 1 Total	Unit 2 Total	Facility Total
Violations	0	0	0	0	0	0
Infractions	5	0	0	5	0	5
Deficiencies	0	0	0	0	0	0
Severity Level I	0	0	0	0	0	0
Severity Level II	0	0	0	0	0	0
Severity Level III	0	0	0	0	0	0
Severity Level IV	0	0	1	1	1	1
Severity Level V	8	0	1	9	1	9
Severity Level VI	1	1	1	2	2	3
	14	1	3	17	4	18

Infractions 80-17-01 and 80-17-03 were also evaluated in the Cycle 1 review period.

2. Areas of Noncompliance:

Functional Areas	Unit 1	Unit 2
1. Quality Assurance	1(V), 1(VI)	-0-
2. Site Preparation and Foundations	-0-	-0-
3. Containment Structure	1(V)	-0-
4. Safety Related Structures	3(V), 1 (Inf)	1(V)
5. Piping and Hangers	2(V), 2 (Inf)	1(V)
6. Safety Related Components	1(VI)	2(VI)
7. Electrical	2(Inf), 1(V)	-0-
8. Instrumentation	-0-	-0-
9. Fire Protection	-0-	-0-

Functional Areas (Continued)	Unit 1	Unit 2
10. Preservice Inspection	-0-	-0-
11. Corrective Action and Reporting	1(IV), 1(V)	-0-
12. Procurement	-0-	-0-
13. Design and Design Changes	-0-	-0-
14. Training	-0-	-0-
Totals	17	4

B. Number and Nature of Construction Deficiency Reports (CDR)

There were 14 Construction Deficiencies reported. Later, four of these were determined to be not reportable and cancelled. The ten reports are common to Unit Nos. 1 and 2. (See Appendix 3-E) CDR's 80-00-08 and 9 were also included in the Cycle 1 evaluation.

Type of Event:

a.	Personnel Error	1
b.	Design/Fabrication Error	6
c.	External Cause	-0-
d.	Defective Procedure	-0-
e.	Component Failure	2
f.	Other	1
	Total	10

Causally Linked Events: Only two of the reports appear to have common factors. CDR Nos. 80-00-13 and 81-00-06 both involve Limitorque Valve Motor operators. (Generic industry problem area)

C. Escalated Enforcement Actions

Civil Penalties: None

Orders: None

Immediate Action Letters: None

D. Management Conferences Held

-- Meeting No. 81-03, January 27, 1981, a management meeting was held to discuss the results of the Cycle 1 Regional SALP with the licensee.

-- Meeting No. 81-121, June 19, 1981, meeting was held at the request of the licensee to discuss a contested item of noncompliance.

E. Licensee Activities

The licensee's latest estimates indicate that Limerick No. 1 is 65% complete and Unit No. 2 is 29% complete. The major manpower expenditures are being made at Unit 1 however, more activity at Unit No. 2 is noticeable since the Cycle 1 SALP. The main on-going work consists of pipe closure welds to the reactor vessel, preparation for reactor recirculation pump installation, completion of cable tray and conduit installation, large and small bore pipe installation, preparation for the spray pond excavation, and installation of the emergency diesel fuel storage tanks.

The subcontractor responsible for the installation of the reactor internals and control rod drive units has stopped work and departed. The reason for withdrawal appears to be monetary, and not a quality problem.

F. Inspection Activities

There were seventeen inspections of the facility. Twelve of these were resident inspections and five were regional. Specialists also participated in two of the resident inspections. The inspections covered pipe installation and welding, safety-related structures and components, electrical cable terminations, reactor pressure vessel internals, foundations, lakes and dams, fire prevention, containment steel and penetrations, and instrumentation.

G. Investigation Activities

There were two investigations performed in conjunction with resident inspections. The first investigation, IE Report 50-352/81-04, dealt with alleged unauthorized cutting of reinforcing bars in the reactor building. Reinforcing bars were cut, but proper authorization had been obtained. The investigation resulted in a noncompliance for failure to control reinforcing steel cutting drills. The second investigation, IE Report 50-352/81-08, was initiated by an anonymous telephone call alleging that concrete expansion anchor bolts were not properly installed. The investigation disclosed that some anchor bolts were not properly installed, as alleged. However, the system and area involved are not safety-related. There is good assurance that this was an isolated case and not representative of safety-related work.

H. Cycle 1 and Cycle 2 SALP Statistical Data Overlap

Cycle 2 overlaps the last three months of Cycle 1. The evaluation period for Cycle 1 was October 1, 1979 to September 30, 1980. Cycle 2 begins on July 1, 1980. The following data is reviewed in both Cycle 1 and 2:

Noncompliances - 80-17-01 and 80-17-03

CDR's - 80-00-08 and 80-00-09

LIMERICK GENERATING STATION

Unit Nos. 1 and 2

PERFORMANCE ANALYSIS SUMMARY

Functional Area	Category 1	Category 2	Category 3
1. Quality Assurance		x	
2. Site Preparation and Foundations		Not applicable	
3. Containment Structures		x	
4. Safety-Related Structures		x	
5. Piping, Hangers	x		
6. Safety-Related Components		x	
7. Electrical Equipment and Wire		x	
8. Instrumentation and Wire		x	
9. Fire Protection		x	
10. Preservice Inspection		No Basis	
11. Corrective Actions and Reporting		x	
12. Procurement		No Basis	
13. Design and Design Changes		x	
14. Training	x		

FUNCTIONAL AREA PERFORMANCE ANALYSES

1. Quality Assurance

a. Cycle 1

The Cycle 1 analysis identified drawing control and subcontractor quality assurance program implementation as areas of concern. The drawing control actitivies were felt to be improving and not a serious problem because of licensee corrective actions and recent NRC inspections. (The problem area was licensee overview of subcontractor performance.)

b. Cycle 2 (10 hr., 1%)

There were 2 noncompliances in this area (unreported, nonconforming ASME equipment and inadequate procedure review). There does not appear to be any common cause for these items.

Because the licensee's control of subcontractor quality assurance programs was highlighted as an area of concern, there were three inspections of subcontractor performance made. No additional noncompliances resulted from those inspections. Subsequent to the Cycle 1 SALP, the licensee extensively audited subcontractors, and identified problems that resulted in Construction Deficiency Report 81-00-04 being issued.

c. Conclusion

Category 2

2. Site Preparation and Foundation

a. Cycle 1

Work in this area was essentially complete.

b. Cycle 2 (16 hr., 2%)

Inspection was primarily of spray pond work. No noncompliances or problem areas were identified. Major structures are complete.

c. Conclusion

Not applicable.

3. Containment Structure

a. Cycle 1

Although this area was not reviewed, as such, during Cycle 1, related components were analyzed. One noncompliance was identified concerning the liner.

b. Cycle 2 (12 hr., 1%)

One noncompliance was identified for not controlling the welding temperature of an electrical containment penetration.

c. Conclusion

Category 2

4. Safety-Related Structures

a. Cycle 1

One noncompliance was issued during the evaluation period. Major safety-related structures were essentially complete.

b. Cycle 2 (37 hr., 4%)

Licensee activities included CRD pipe jet barrier steel work, north and south vent stack erection, pump house internal steel work, and landing and platform structure erection. There were four noncompliances (design change documentation, QC identification of concrete imperfection, rebar cutting control, vent stack weld undercut). None of the items appear to result from a common cause. The licensee has upgraded his controls in this area by instituting detailed QC receipt inspections for structural steel (not a normal construction practice).

c. Conclusion

Category 2

5. Piping and Hangers

a. Cycle 1

Six noncompliances were issued. This was one of the main activities at the site. The enforcement items were not related to a common cause.

b. Cycle 2 (194 hr., 19%)

This area improved.

Four noncompliances were issued for Unit 1, one of which was common to Unit 2 (unauthorized grinding on reactor coolant pressure boundary, excessive feedwater pipe restraint weld undercut, no sampling plan for sampling inspections, seismic pipe support attached to non-seismic structural steel). No common causal factors were identified. The pipe welding program appears effective. The licensee is responsive to NRC concerns.

c. Conclusion

Category 1

6. Safety-Related Components

a. Cycle 1

Two noncompliances were identified. The items are unrelated and cite two independent contractors (79-11-08 HVAC damper flange weld undercut and 80-07-01 penetrant entrapment in crevices). However, these contributed to a general finding relating to subcontractor quality program implementation.

b. Cycle 2 (75 hr., 7%)

There was one noncompliance for Unit 1 and two for Unit 2. The one for Unit 1 is common to Unit 2. All three were for inadequate storage of recirculation loop valves. It appears that this is a unique condition, and not representative of storage in general. No significant strengths or weaknesses were identified.

c. Conclusion

Category 2

7. Electrical Equipment

a. Cycle 1

Two noncompliances were identified. The main activities were cable tray and conduit installation.

b. Cycle 2 (106 hr., 10%)

Two noncompliances were issued. (Unapproved drilling through seismic block walls, no cable tray softeners for wire protection.) These were previously reviewed in Cycle 1. The licensee is currently mobilizing for cable pulling activities. The licensee's program calls for completing cable trays and raceways before pulling cable. That should minimize development of the separation problems experienced at other sites.

c. Conclusion

Category 2

8. Instrumentation and Wire

a. Cycle 1

No noncompliances were identified. Very little safety-related instrument work was done during the evaluation period.

b. Cycle 2 (31 hr., 3%)

Limited instrumentation installation began. No noncompliances were identified. No significant strengths or weaknesses were identified.

c. Conclusion

Category 2

9. Fire Protection

a. Cycle 1

This functional area was related to fire prevention during construction only. One inspection was made in this area with no enforcement findings.

b. Cycle 2 (1 hr., 0%)

This area had no separate direct inspection but is integral to other direct inspection effort.

No noncompliances were identified. No significant strengths or weaknesses were identified. No fires occurred. Housekeeping receives consistent attention.

c. Conclusion

Category 2

10. Preservice Inspection

a. Cycle 1

No noncompliances were identified. There was one inspection by a regionally based specialist and surveillance by the resident inspector.

b. Cycle 2 (0 hr., 0%)

Preservice inspection (PSI) is an ongoing activity. The licensee performs PSI as pipe welds are completed rather than waiting until all piping is installed.

No inspections were performed.

c. Conclusion

None. Insufficient basis.

11. Corrective Actions and Reporting

a. Cycle 1

No noncompliances were issued. However, the licensee was informed during a January 16, 1980 meeting that his timeliness in reporting Construction Deficiencies did not satisfy 10 CFR 50.55(e) requirements. Subsequent to this meeting and inspector/licensee discussions, the licensee was more responsive.

b. Cycle 2 (243 hr., 24%)

Two related noncompliances were identified. Inspection reports 50-352/81-06 and 81-08 disclosed a weakness in the licensee's followup system for NRC items of noncompliance. The system did not assure adequate follow-up on committed corrective actions by contractors and subcontractors. The licensee was asked to establish controls to prevent recurrence.

Primary inspection effort has been to reduce the number of outstanding items. No significant strengths have been identified.

c. Conclusion

Category 2

12. Procurement

a. Cycle 1

This area was not examined for Cycle 1.

b. Cycle 2 (0 hr., 0%)

This area has not been separately inspected. No significant strengths or weaknesses have been identified. Site procurement is very limited. Most procurement is performed by the architect-engineer's home office in San Francisco. Receipt and storage inspections are covered in the other inspection areas.

c. Conclusion

None. Insufficient basis.

13. Design and Designs Changes

a. Cycle 1

This area was not examined for Cycle 1.

b. Cycle 2 (20 hr., estimated, 2%)

No direct inspection effort was devoted to design and design changes, which are examined incident to other modules and independent effort. Noncompliance number 81-10-02 is the result of a design error in which a design interface between piping and structural disciplines was not properly coordinated. No significant strengths (or weaknesses) have been identified. Bechtel (San Francisco) performs most of the design work in the home office.

c. Conclusion

Category 2

14. Training

a. Cycle 1

One enforcement item was issued for subcontractor failure to properly certify a quality control inspector (80-12-14). This finding contributed to a general finding relating to subcontractor quality program implementation.

b. Cycle 2 (20 hr., estimated, 2%)

No items of noncompliance were identified in this area. No direct inspection hours were expended on training specifically, but training is reviewed in conjunction with other areas. Welder training and QA training for site personnel is above average.

c. Conclusion

Category 1

NONCOMPLIANCE DATA
Unit No. 1
July 1, 1980 - June 30, 1981
Cycle 2

Noncomp. Number	Inspection Date	Subject	Req.	Sev.	Area
80-17-01	9/2-30/80	Drilling of Seismic I block walls without approval of area engineer (elect. support)	B-V	Inf	7
80-17-03	9/2-30/80	Failure to provide cable tray softeners to protect wire	B-V	Inf	7
80-19-01	10/7-30/80	Failure to properly document field design change to structural steel	B-V	Inf	4
80-20-01	11/4-28/80	Unauthorized grinding on RCPB pipe weld end preparation	B-IX	Inf	5
80-20-03	11/4-28/80	Excessive weld undercut on feed-water pipe restraint	B-V	Inf	5
80-21-02	12/4-31/80	Failure to control welding temperature during installation of electrical penetrations	B-IX	NC5	3
80-21-05	12/4-31/80	Failure to provide a sampling plan for sampling inspections on weld fitups	B-V	NC5	5
81-01-01	1/5-30/81	Concrete imperfection not identified by Quality Control	B-V	NC5	4
81-01-02	1/5-30/81	Failure to preheat electrical support before welding	B-IX	NC5	7
81-01-04	1/5-30/81	Failure to report nonconformances identified on ASME supplied equipment	B-XVI	NC5	1
81-04-01	3/2-27/81	Failure to control rebar cutting activity	B-V	NC5	4
81-04-02	3/2-27/81	Failure to protect RCPB valves in storage	B-V	NC6	6

Unit No. 1 (Continued)

Noncomp. Number	Inspection Date	Subject	Req.	Sev.	Area
81-06-02	4/1-30/81	Incomplete corrective action on an NRC noncompliance; inaccessible fire damper welds	B-XVI	NC4	11
81-06-03	4/1-30/81	Excessive weld undercut on the vent stack structural steel	B-V	NC5	4
81-07-01	5/5-8/81	Failure to properly review procedures	B-V	NC6	1
81-08-01	5/1-29/81	Failure to obtain a "conditional release" for a nonconformance report	B-XV	NC5	1
81-10-02	6/15-30/81	Attachment of Seismic I pipe support to nonseismic I structural steel	B-III	NC5	5

NONCOMPLIANCE DATA
Unit No. 2
July 1, 1980 - June 30, 1981
Cycle 2

Noncomp. Number	Inspection Date	Subject	Req.	Sev.	Area
80-19-01	12/4-31/80	Failure to provide a sampling plan for sampling inspections on weld fitup	B-V	NC5	5
81-04-01	3/2-27/81	Failure to protect RCPB valves in storage	B-V	NC6	6
81-05-01	4/1-30/81	Excessive weld undercut on the vent stack structural steel	B-V	NC5	4
81-07-01	6/2-5/81	Improper valve storage	B-V	NC6	6

CONSTRUCTION DEFICIENCY REPORTS

CDR No.	Report Date	Subject	Area
80-00-08	8/26/80	Unapproved ASME fastener supplier per NA 3700	A
80-00-09	11/6/80	Part 21 Report from Colt Industries, emergency diesel generator field insulation fraying	E
80-00-10	11/19/80	Violation of separation criteria in PGCC	B
80-00-11	12/3/80	Texas Pipe Radiographs (cancelled)	
80-00-12	12/18/80	RPV Nozzle Weld Practices (cancelled)	
80-00-13	12/30/80	Wiring defects in Limitorque valve motor operators	B
81-00-01	1/13/81	Loss of flexible conduit grounds for PGCC	B
81-00-02	1/29/81	Nonseismic conduit supported from seismic I conduit (cancelled)	
81-00-03	2/3/81	Part 21, defective pressure switch in chlorine monitor	B
81-00-04	2/24/81	HVAC contractor not installing ductwork according to design	F
81-00-05	5/1/81	ITE Gould 480V switchgear wiring damage	B
81-00-06	5/1/81	Broken Limitorque MOV limit switch rotors	E
81-00-07	5/19/81	Improper anchor bolt center to center spacing	B
81-00-08	5/26/81	Improper installation of electrical equipment (cancelled)	

INSPECTION HOURS SUMMARY

Functional Area	Inspection Hours (Unit 1 and 2 Combined)	
1. Quality Assurance	10	(1%)
2. Site Preparation and Foundations	16	(2%)
3. Containment Structures	12	(1%)
4. Safety-Related Structures	37	(4%)
5. Piping and Hangers	194	(19%)
6. Safety-Related Components	75	(7%)
7. Electrical	106	(10%)
8. Instrumentation	31	(3%)
9. Fire Protection	1	(0%)
10. Preservice Inspection	0	(0%)
11. Corrective Actions and Reporting	243	(24%)
12. Procurement	0	(0%)
13. Design and Design Changes	20*	(2%)
14. Training	20*	(2%)
15. Miscellaneous	255	(25%)
	1,020	

*Estimated hours not 766 data