

SALP 5

SALP BOARD REPORT

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U. S. NUCLEAR REGULATORY COMMISSION

REGION III

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SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

50-282/85-01; 50-306/85-01  
Inspection Reports. No.

Northern States Power Company  
Name of Licensee

Prairie Island Units 1 and 2  
Name of Facility

July 1, 1983 - November 30, 1984  
Assessment Period

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## I. INTRODUCTION

The Systematic Assessment of Licensee Performance (SALP) program is an integrated NRC staff effort to collect available observations and data on a periodic basis and to evaluate licensee performance based upon this information. SALP is supplemental to normal regulatory processes used to ensure compliance to NRC rules and regulations. SALP is intended to be sufficiently diagnostic to provide a rational basis for allocating NRC resources and to provide meaningful guidance to the licensee's management to promote quality and safety of plant construction and operation.

An NRC SALP Board, composed of staff members listed below, met on January 24, 1985, to review the collection of performance observations and data to assess the licensee performance in accordance with the guidance in NRC Manual Chapter 0516, "Systematic Assessment of Licensee Performance." A summary of the guidance and evaluation criteria is provided in Section II of this report.

This report is the SALP Board's assessment of the licensee's safety performance at Prairie Island for the period July 1, 1983, through November 30, 1984.

SALP Board for Prairie Island:

<u>Name</u>	<u>Title</u>
J. A. Hind,	Director, Division of Radiation Safety and Safeguards
D. C. DiIanni,	Project Manager, NRR
J. R. Miller,	Chief, Operating Reactors Branch No. 3, NRR
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W. S. Little,	Chief, Operations Branch, DRS
M. P. Phillips,	Chief, Emergency Preparedness Section, DRSS
C. E. Norelius,	Director, Division of Reactor Projects

## II. CRITERIA

The licensee performance is assessed in selected functional areas depending whether the facility is in a construction, preoperational or operating phase. Each functional area normally represents areas significant to nuclear safety and the environment, and are normal programmatic areas. Some functional areas may not be assessed because of little or no licensee activities or lack of meaningful observations. Special areas may be added to highlight significant observations.

One or more of the following evaluation criteria were used to assess each functional area.

1. Management involvement in assuring quality.
2. Approach to resolution of technical issues from a safety standpoint.
3. Responsiveness to NRC initiatives.
4. Enforcement history.
5. Reporting and analysis of reportable events.
6. Staffing (including management).
7. Training effectiveness and qualification.

However, the SALP Board is not limited to these criteria and others may have been used where appropriate.

Based upon the SALP Board assessment, each functional area evaluated is classified into one of three performance categories. The definition of these performance categories is:

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 so that a high level of performance with respect to operational safety or construction is being achieved.

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.

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 so that minimally satisfactory performance with respect to operational safety or construction is being achieved.

Trend: The SALP Board has categorized the performance trend in each functional area rated over the course of the SALP assessment period. The categorization describes the general or prevailing tendency (the performance gradient) during the SALP period. The performance trends are defined as follows:

Improved: Licensee performance has generally improved over the course of the SALP assessment period.

Same: Licensee performance has remained essentially constant over the course of the SALP assessment period.

Declined: Licensee performance has generally declined over the course of the SALP assessment period.



### III. SUMMARY OF RESULTS

The overall regulatory performance of your facility has continued at a high level during the assessment period. However, performance in the area of surveillance declined from a Category 1 to a Category 2 and the performance trend in the area of security also declined. Your performance in these areas will be closely monitored and discussed in the next SALP Board Assessment for your facility.

<u>Functional Area</u>	<u>Rating Last Period</u>	<u>Rating This Period</u>	<u>Trend Within The Period</u>
A. Plant Operations	2	2	Same
B. Radiological Controls	1	1	Same
C. Maintenance	1	1	Same
D. Surveillance	1	2	Same
E. Fire Protection	1	1	Same
F. Emergency Preparedness	1	1	Same
G. Security	1	1	Declined
H. Refueling	1	1	Same
I. Quality Programs and Administrative Controls	*	2	Same
J. Licensing Activities	1	1	Same

\*No category rating assigned during the last SALP period.

#### IV. PERFORMANCE ANALYSIS

##### A. Plant Operations

##### 1. Analysis

Inspections were performed in this area by the resident inspectors covering direct observation of operating activities, review of logs and records, discussions with plant personnel, verification of selected equipment lineups and operability, and followup of significant operating events to verify that facility operations were in conformance with the Technical Specifications and administrative procedures. In addition, a special inspection was performed by a regional inspector to determine if Prairie Island was susceptible to the same problems that were identified during an August 1, 1983 degraded essential bus voltage event at Monticello. Seven items of noncompliance were identified as follows:

- a. Severity Level III - Bus Tie Breaker No. 26-8 was racked out (while D-1 emergency diesel generator was out of service) thus reducing the number of paths from the transmission grid to Safety Bus 15 to only one. (Inspection Report No. 50-282/83-20).
- b. Severity Level IV - Failure to conduct a 10 CFR 50.59 safety evaluation prior to operating the 345 KV bus at a voltage below the minimum assumed in the licensee's analysis of the adequacy of the station electrical distribution system. (Inspection Reports No. 50-282/83-22; 50-306/83-22).
- c. Severity Level V - The Reactor Log had incomplete entries regarding the operability of a technical specification related radiation monitor. (Inspection Report No. 50-306/84-03).
- d. Severity Level V - Unplanned start of D-1 emergency diesel generator was not reported to NRC within four hours. (Inspection Reports No. 50-282/84-11-02; 50-306/84-11-02).
- e. Severity Level V - Unplanned start of D-2 emergency diesel generator due to a failure to follow special procedure. (Inspection Reports No. 50-282/84-11; 50-1306/84-11).
- f. Severity Level IV - Failure to follow procedures in the start of a turbine driven auxiliary feedwater pump and failure to record in the Reactor Log events arising therefrom. (Inspection Report No. 50-282/84-13).

Item a. was the subject of a special inspection report and resulted in an enforcement conference at the licensee's corporate offices on December 7, 1983. Following this conference the NRC decided to mitigate the civil penalty for this violation to zero on the basis of the licensee's previous good regulatory performance. Items c., d., and e. are minor violations related to procedural, reporting, and logging requirements. Item f. is considered to be significant because one of the consequences of failing to follow procedures was the filling of the auxiliary feedwater pump room with steam. This room contains much safety-related equipment, though it appears that none of this equipment was adversely affected because of prompt action by the operating staff in investigating control room alarms.

Noncompliance b. is a reflection of the licensee's practice of not treating analytical assumptions as operational constraints unless the assumptions are clearly identified as operating limits in technical specifications or other correspondence with the NRC. (An additional reflection of that licensee practice was the identified lack of implementing procedures to assure electrical bus voltage operation was within the bounding assumptions of the licensee's analysis of the adequacy of the station electrical distribution system). The licensee requested the noncompliance be withdrawn and that request is under review. Although the licensee believes its practice relating to the treatment of bounding assumptions of safety analyses to be sound, the licensee has implemented appropriate controls over minimum acceptable bus voltages. While the licensee's approach to analytical assumptions is not as conservative as it could be, it has not been finally established at this time that the licensee's practice is contrary to regulatory requirements.

Both the numbers of noncompliance items and the severity levels show an upward trend as compared to the previous SALP rating period. Licensee management attention to these matters include the implementation of the Positive Discipline Program in September 1983, a study of personnel/procedural errors begun in June 1984, and an outside independent audit of nuclear plant operations conducted by the Delian Corporation begun in the Fall of 1984. Results of these efforts will be reviewed by NRC when the licensee reports on them.

There were six reactor trips during this period, all on Unit 1. In four of these the feedwater control system during low power operation was involved. (Of these feedwater system related trips, two were caused by personnel error and the other two were the result of problems in a feedwater controller). Another trip occurred from low power as a result of personnel error during maintenance on reactor coolant system instrumentation. The sixth trip occurred from full power as a consequence of personnel error during surveillance testing related to flux mapping.

Technical support for the operating crews is provided principally by the Nuclear Engineering, Technical Engineering, and Operations Engineering groups. The members of these groups are well qualified for their assignments. In addition to the very low attrition rates which continuously improves the experience level, about half of the engineers also hold Senior Reactor Operator licenses issued by the NRC.

Weaknesses in the training area had been identified during the previous SALP period (SALP 4) and targeted for licensee review and improvement. Special inspections were conducted by the resident inspection staff in the areas of requalification training and non-licensed training. The weaknesses with respect to procedure changes and design changes requiring training had been corrected and were incorporated into the requalification training program.

During the reporting period 11 RO, 21 SRO, and 2 SRO instructor exams were given. The overall passing rate for these exams was 59% which is below the national average of about 80%. However, the passing rate for those operators who will be operating reactor controls on a daily basis (setting aside those SRO's who work on the engineering and training staffs), was more than 70%, which is considered to be acceptable performance.

Control room behavior at the Prairie Island site was professional and conformed to the applicable administrative and regulatory guidance. Shift turnover was controlled and appeared effective. Plant operation distractions were kept to a minimum. Conduct of work in the control room was relaxed but businesslike. The operators were sensitive to work activities which could interfere with control room duties.

2. Conclusion

The licensee is rated Category 2 in this area, the same as achieved in the previous rating. The performance trend within this assessment period remained the same.

3. Board Recommendations

The Board noted that one half of the engineers in the technical support staff have their SRO licenses and considers this a good practice. In view of the low pass rate during their licensing exam, better preparation is needed for these candidates.



## B. Radiological Controls

### 1. Analysis

Five inspections were performed during this assessment period by region based inspectors. These inspections included operational and refueling outage radiation protection, radioactive waste management, TMI Action Plan Items, transportation activities, confirmatory measurements, and Part 61 requirements for disposal of low-level radioactive wastes. The resident inspectors also reviewed this area during routine inspections. No violations or deviations were identified.

Staffing in this functional area is ample with an unusually low employee turnover rate and high morale. The staff is experienced, competent, and stable. Rare vacancies are filled on a priority basis. A recent health physics engineer vacancy was filled within three months. A training program for chemistry and radiation protection personnel is well defined and implemented. The training program for chemistry personnel involves individualized training on new instruments, new analytical procedures, on-the-job supervisory training, and demonstration of laboratory proficiency through the blind sample program. The licensee also has a comprehensive formal refresher training program for chemistry and radiation protection technicians which consists of about 21 days of training per year and includes plant systems training.

Management involvement in this functional area is consistent. There is consistent evidence of managers and supervisors frequent involvement in day-to-day plant activities. Procedures and policies are adhered to, and records are complete, well maintained, and available. Corrective action systems promptly and consistently recognize and address nonreportable concerns. Internal audits are complete, timely, and thorough. An annual audit of this functional area is performed by both onsite and corporate groups.

A conservative approach is routinely exhibited in resolution of radiological control issues. Both total and power normalized personal radiation exposures during this assessment period continued well below the average for U.S. pressurized water reactors. An effective ALARA program implemented at all plant levels contributes to the low exposures. Several improvements were made during this assessment period which should further reduce future radiation exposures including installation of a reactor head shield to reduce background when the head is removed, use of steam generator mockups, use of automated eddy current testing equipment and modification of reactor cavity drain sumps to minimize crud buildup on a fixed filter.

Total liquid and airborne radioactive releases and solid radioactive waste volume and activity remained well below the average for U.S. pressurized water reactors. No unplanned releases to the environment or radioactive material transportation problems were reported. The licensee satisfactorily implemented the radwaste classification and characteristics requirements of 10 CFR 61 and 10 CFR 20.311 during its first 1984 radwaste shipment, made in mid-October 1984.

The licensee continued to demonstrate good performance in his capability to accurately measure radioactivity in effluents. The licensee achieved all (23) agreements in comparison with results with the Region III Mobile Laboratory for six different samples. The licensee has established an acceptable quality control program for analytical measurements, including completely revised chemistry/radio-chemistry procedures, adequate laboratory analytical instrument checks and calibrations, and a performance check program which provides each Radiation Protection Specialist with blind or split samples to test his laboratory proficiency. The only identified weakness in the program is in the use of performance checks for counting room instruments which can be improved by tightening selected performance criteria and relying less heavily on subjective evaluations by the reviewers.

2. Conclusion

The licensee continues to be rated Category 1 in this area. Licensee performance has remained essentially constant over the course of the SALP assessment period.

3. Board Recommendations

Reduced NRC attention should be considered.

C. Maintenance

1. Analysis

Inspections were performed by the resident inspector of selected maintenance and design change activities to verify that these activities were performed in accordance with Technical Specifications and quality assurance requirements. Followup inspections were performed on significant equipment problems. Discussions were held during these inspections with both maintenance management and with craftsmen. No items of noncompliance were identified in the maintenance area during this rating period. There were none during SALP 4, either.



Examination of this functional area also consisted of an inspection by regional based inspectors (50-306/84-13) to examine modifications made to the Unit 2 Steam Generator Blowdown System. The inspector examined procedures, equipment, and material certifications and fabrication, inspection and final test records.

For the areas examined, the inspector determined that the management control systems met regulatory requirements and personnel and material certifications were current and complete. Records were found to be complete, well maintained and available. No major strengths or weaknesses were noted.

In addition, a special inspection was conducted by a Performance Appraisal Section Team which focused on the area of plant maintenance. Conclusions of the team were favorable; no items of noncompliance were found and only two minor procedural questions were identified.

Two LERs were issued in the maintenance area during the rating period (P-RO-83-31, P-RO-83-34). Both of these are considered to be insignificant items.

Overall performance of work in this area continues to be at a high level. In part this is because of the extreme stability of the maintenance organization and the extensive nuclear plant experience of craftsmen and supervisors alike. Planning for and followup on large and special maintenance activities continues to be excellent because of attitudes which exist at the top of the maintenance group.

An example of the high level of performance in the maintenance area is the approach licensee took when a leak occurred in steam generator No. 12. Since the leak exceeded the technical specification limit of 1.0 gpm, licensee was required to do eddy current inspection of 6% of the tubes in steam generator No. 12 before restart of the unit. Actual inspection of 9+% of the tubes was performed plus all tubes in steam generator No. 12 from hot leg tube end to the first support. These inspections greatly exceeded the regulatory requirements.

2. Conclusion

The licensee continues to be rated Category 1 in this area. The trend within this period remained the same.

3. Board Recommendations

Reduced NRC attention should be considered in this area.

D. Surveillance

1. Analysis

Examination of this functional area consisted of four inspections by regional based inspectors and routine inspections by the resident inspectors. Three of these inspections included inservice inspection of piping systems for both Units 1 and 2, eddy currents examinations performed in steam generator No. 12 due to leaking tubes, and actions related to IE Bulletins. A special inspection performed during the period involved review of test procedures and data for the inservice testing of valves. As applicable, the inspectors examined the current program and procedures, material and equipment certifications, personnel certifications, inservice inspection data reports, and inspection records. In addition, work was observed and discussions were held with personnel performing specific surveillance activities. Five items of noncompliance were noted as follows:

- a. Severity Level IV - A safety injection pump was damaged and made inoperable because of failure to follow the procedure during surveillance testing. (Inspection Report No. 50-282/83-18).
- b. Severity Level IV - During routine surveillance testing on containment airlocks during unit operation, both shield building airlock doors were simultaneously opened. (Inspection Report No. 50-282/84-07).
- c. Severity Level V - Certain RHR system valves were not leak tested or trended per ASMR Section XI requirements. (Inspection Report No. 50-282/84-08).
- d. Severity Level IV - In the course of surveillance testing on the safeguards logic system, valves between the RWST and the SI pumps were opened inadvertently. (Inspection Report No. 50-306/84-10).
- e. Severity Level IV - While recirculating the contents of a caustic addition standpipe, leakage through a closed but leaking valve caused the volume of the tank contents to go below technical specification limits because of failure to properly monitor the tank level. (Inspection Report No. 50-306/84-15).

Item a. is of significance in that it resulted in severe damage to a Unit 1 SI pump. This occurred because of failure of an auxiliary building operator to open the pump suction valve. The pump damage required that the unit be shut down. Corrective actions included a broad spectrum of procedure and equipment changes plus additions to requalification and non-licensed operator training programs.

Item b. is also of significance in that it reflected adversely on personnel attention to the details of the plant technical specifications. Technical Specifications clearly prohibit simultaneous opening of both shield building doors during unit operation. This item and item i. discussed below were reviewed during an enforcement conference held at the licensee corporate offices on July 18, 1984. During that conference the licensee reviewed actions to be taken in response to the events; namely, audit of Prairie Island surveillance activities by corporate personnel. Another corporate activity undertaken in light of these recent operating events is an independent outside audit of nuclear plant operations by an outside consultant. At the end of the rating period these audits had not been completed.

Item c., combined with several open and unresolved items identified during this inspection, indicated a need for test program improvement and additional attention to detail by the licensee; however, this item was not repetitive of previously identified items, nor does it appear to be indicative of more severe underlying causes.

Item d., also discussed with Item b. above, occurred during simultaneous surveillance testing and instrument calibration work on the same safeguards logic system. Appropriate corrective action, including procedure modification, was taken.

Item e. is another event which occurred during surveillance testing near the end of the rating period. This item is of concern because a violation of a technical specification Limiting Condition for Operation (LCO), was involved, and was the result of personnel inattention to a level indicator located in the control room.

These noncompliance items represent a significant decrease in performance since SALP 4. Since in SALP 4 there were only two Severity Level V violations, licensee performance has decreased in both numbers of items and severity of violation.

The number of LERs attributed to personnel error has decreased slightly as compared to SALP 4. There were five in the previous rating period as compared to four in the current period. Two of the current LERs (P-RO-83-28, P-RO-83-32) involve missed surveillance tests and are of little regulatory significance. The third one (P-RO-83-23) is described in a. above and since damage to engineered safeguards equipment occurred, is considered to be a more serious event. The fourth one (P-RE-2-84-3 is described in e. above.

NRC's concerns regarding personnel errors and apparent decline in performance were discussed with the licensee during the July 18, 1984 enforcement conference described above. Whether or not licensee's corrective actions will be effective in improving the performance in this area is too early to ascertain. Repetitive problems with meeting the technical specification requirements for the caustic addition system are good examples of the cause for regulatory concern.

Staffing seems to be adequate to handle surveillance and inservice testing requirements. However, the findings demonstrate a lack of rigorous adherence toward the regulatory requirements in this area.

2. Conclusion

The licensee is rated Category 2 in this area, a decline from the previous SALP period. Licensee performance has remained constant over the course of the SALP period.

3. Board Recommendations

Recognizing the decline in the SALP rating, the Board recommends that the licensee and the NRC more closely monitor and review the surveillance program, particularly with respect to regulatory requirements.

E. Fire Protection

1. Analysis

Examination of this functional area was routinely performed by the resident inspector and included licensee activities in the area of license audits and general implementation of the existing fire protection and housekeeping programs to verify that activities were performed in accordance with technical specifications and applicable procedures. No items of noncompliance were identified and the licensee successfully corrected all previous noncompliance and open items in this area.

The licensee continues to monitor and control fire protection and housekeeping on a daily basis. In general, housekeeping has been very good during this period. There has been some degradation in performance in the past few months, and this matter has been brought to the licensee's attention. Management involvement is evidenced by the daily independent plant tours performed by key supervisors, including the plant manager. Areas requiring action are discussed daily among the staff. Interviews with personnel and plant tours indicate the licensee places a high priority on these items. The licensee continues to operate a superior radiological cleanup program involving decontamination of tools, equipment, and building areas. As a result, the number of contaminated areas requiring use of protective clothing is maintained at a minimum.



During this SALP period, the licensee resolved complex technical issues concerning Appendix R fire protection requirements. By constructive communication with NRR and a strong effort to meet or exceed established fire protection commitments, it is expected the completion date for the majority of Appendix R modifications will be met. Due to problems in purchasing cable wrap material, a scheduler exemption request will be filed for cable protection work.

One minor fire occurred during the SALP period. The minor fire started during welding at a construction area which was quickly extinguished by a fire watch. No LERs relating to fire protection occurred during the SALP period. This trend is consistent with the SALP 4 period.

The licensee continues to maintain good practices in these areas, including scheduled fire protection training and unannounced drills.

2. Conclusion

The licensee is rated Category 1 in this area which is the same as the previous SALP rating. The performance trend within this period remained the same.

3. Board Recommendations

None.

F. Emergency Preparedness

1. Analysis

Two inspections were performed during this assessment period. One of these was an observation and evaluation of the annual emergency preparedness exercise conducted on March 13, 1984. The other inspection, October 3-5, 1984, included these portions of the Emergency Preparedness (EP) Program: training, changes to the program, licensee audits, maintenance of emergency preparedness, and implementation of the emergency plan. No items of noncompliance or deviations were identified related to emergency preparedness activities. One procedural noncompliance was identified and is discussed in Quality Programs, Section I. Two Unusual Events which occurred during the inspection period were reported to NRC and notifications were made to offsite governmental agencies in a timely manner. Both events were properly identified and analyzed. Both inspections indicate good enforcement history.

While the training program is well organized, thorough, and addresses all areas of EP, training records did not always indicate which individuals participated in drills, exercises, or table top discussions.

Licensee audits are well performed, timely, and thorough. Weak areas were identified and appropriate corrective actions taken by management, reflecting adequate management involvement control in assuring quality in this phase of the EP program.

Staffing is adequate. Shift augmentation was successfully demonstrated as part of a drill conducted during the inspection period. Key emergency positions are well identified. Authorities and responsibilities of plant and corporate level personnel are well defined. The Administrator, Emergency Preparedness (Corporate), reports to the General Superintendent, Radiation Protection and Chemistry. The administrator has a good rapport with the Site Emergency Preparedness Coordinator and good communications are maintained between the two levels. Responsibilities and functions of both positions are well defined in the respective implementing procedures.

The licensee's responses to exercise scenario deadlines have been timely. The quality of the exercise scenario to test the licensee's emergency responses to an escalating emergency has been technically sound and meaningful. General communications with the NRC from both staff and management level, including corporate level positions, have been timely and effective. The licensee has demonstrated responsiveness to NRC initiatives and has met all deadlines.

2. Conclusion

The licensee is rated Category 1 in this area. This rating is at the same level as the previous SALP assessment period. The licensee has continued to demonstrate a high level of performance in the implementation of its emergency preparedness program.

3. Board Recommendations

Reduced NRC attention should be considered in this area.

G. Security

1. Analysis

During the assessment period, two routine inspections were performed by region based inspectors. The resident inspectors also made periodic observations of security activities. Three items of noncompliance were identified.

- a. Severity Level IV - The licensee failed to provide an effective barrier in a portion of the protected area perimeter. (Inspection Reports No. 282/84-10; 306/84-09).



- b. Severity Level IV - The protected area intrusion detection system failed to detect attempted penetrations in several zones. (Inspection Reports No. 282/84-10; 306/84-09).
- c. Severity Level IV - Failure to adequately control access to a vital area (Inspection Reports No. 282/84-03; 306/84-03).

The number and severity level of the violations remained essentially unchanged from the previous SALP assessment evaluation; however, item b. represented the identification of a deficiency in a major portion of the protected area intrusion alarm system's detection capability. The item was not identified by the licensee because of less than effective testing procedures and auditing techniques, i.e., the absence of independent testing of security systems. Item a. was a design deficiency in the protected area physical barrier which had existed since the inception of the program, but was identified during this SALP period. Item c. appeared to be an access control procedural violation by a plant employee that did not result in an actual occurrence. Items a. and c. were not indicative of a major programmatic breakdown. Although not major, item b. is indicative of a possible programmatic deficiency.

During this SALP assessment period, an in depth review of the licensee's Quality Assurance program showed that the program did not provide management with a comprehensive overview of the security system's effectiveness. Although there were relatively few significant problems noted in this evaluation period, a minimal audit program could result in the non-identification of weaknesses and potential items of noncompliance in the future.

Security records were generally complete and well maintained, with the exception of documentation of maintenance performed on security equipment. The maintenance request process failed to provide management with an effective means for tracking the completion of work on security equipment. This problem was identified by the licensee during the latter portion of the SALP evaluation period, and corrective actions initiated.

The licensee's corrective actions to the identified items of noncompliance were timely and adequate. Security events were promptly and adequately reported under 10 CFR 73.71(c).

Positions within the security organization were identified and authorities and responsibilities were adequately defined in "Section Work Instructions".

The guard force training and qualification program made a positive contribution to the effectiveness of the security program. Security personnel were knowledgeable of their duties

and performed their duties in a satisfactory manner. Security supervisors provided strong supervision for day-to-day operations.

2. Conclusion

The licensee continues to be rated Category 1 in this area, but the performance declined during the assessment period.

3. Board Recommendations

The licensee should strengthen their audit program and evaluate their testing procedure for the protected area intrusion alarm system.

H. Refueling

1. Analysis

Inspections of refueling activities, steam generator tube inspection, preparation for refueling, refueling surveillance, and plant startup from refueling were conducted by resident inspectors during the following refueling outages:

Unit 2	August 28 - September 27, 1983
Unit 1	December 2, 1983 - January 3, 1984
Unit 2	September 4, 1984 - October 13, 1984

Licensee management continues to exercise effective control over refueling outage activities. All refueling outages also include 100% eddy current testing of steam generator tubes. Refueling outages continue to be performed expeditiously. The three refueling outages during this SALP rating period were completed in 31, 33, and 40 days, thus reflecting favorably on management control and prior planning.

Fuel movement activities are performed expeditiously and generally without error. This performance is attributed to the close attention given to these activities by the operating crew and due to the continuous monitoring of fuel activities by members of the Nuclear Engineering group, most of whom hold SRO licenses.

The licensee responded to IE Bulletin 84-03, Refueling Cavity Water Seal, on September 17, 1984, 13 days after receipt. This bulletin response was required prior to fuel movement, which was scheduled shortly thereafter. The licensee's timely response was adequate and demonstrative of the ability to resolve technical issues.

No items of noncompliance were identified during the SALP period. Additionally, no LERs in this area occurred during the SALP period. These trends are consistent with the SALP 4 period.

2. Conclusion

The licensee is rated Category 1 in this area, which is the same as the previous SALP rating. The trend within this period remained the same.

3. Board Recommendations

None.

I. Quality Programs and Administrative Controls Affecting Quality

1. Analysis

The resident inspection staff monitors Quality Assurance (QA) daily during the performance of their observations of plant activities in the areas of operations, maintenance, and surveillance. Region III specialists also performed one inspection. The Technical Specifications, QA Program, corporate and plant procedures, 10 CFR 21, and Appendix B to 10 CFR 50, formed the primary bases for these inspections. Specific items reviewed included: QA program matters; auditing; procedures; corrective actions; committees; reporting; design control; procurement; calibration; and training. Two items of noncompliance were noted during these inspections:

- a. Severity Level IV - Plant procedures were not revised to reflect a modification to reactor coolant pressure monitoring instrumentation. (Inspection Report No. 50-306/83-20).
- b. Severity Level V - An alarm procedure was not provided for one of the control room overhead annunciators. (Inspection Reports No. 50-282/84-05; 50-306/84-05).

Regarding Item a., corrective action to prevent future omissions of this type includes the establishment of administrative procedures in the form of a revised plant modification system which was implemented on August 1, 1984. This represents a significant effort by licensee management to respond to NRC concerns.

Item b. was uncovered during the emergency preparedness exercise in March 1984. Corrective action was taken promptly.

There were no LERs in this area during the rating period.

There was satisfactory evidence of prior planning and assignment of priorities, and stated and defined procedures for the control of activities. Policies were adequately stated and understood with decisionmaking usually at a level that ensures adequate management review. Corporate management is frequently involved

in site activities and records are generally complete, well maintained, and available. With the exception of the operation and surveillance procedural concerns discussed in Section A and D, administrative procedures and policies are rarely violated and the nonroutine reporting program corrective action system generally recognizes and addresses nonreportable concerns.

Enforcement history indicates that major violations are rare and may indicate minor programmatic breakdown with corrective action being timely and effective in most cases. Reportable events are for the most part promptly and completely reported, identified, analyzed, and effectively corrected. Staffing is generally adequate, although there were occasional difficulties as evidenced by excessive overtime.

The licensee was not rated in this area during the previous SALP period and the findings and observations developed during this assessment period have indicated no major concerns. Licensee management attention and involvement are evident and concerns for nuclear safety are adequate. Quality program activities appear to be well controlled.

2. Conclusion

The licensee is rated Category 2 in this area. Licensee performance over the course of the SALP assessment period remains the same.

3. Board Recommendations

None.

J. Licensing Activities

1. Analysis

The basis for this appraisal was the licensee's performance in support of licensing actions that were either completed or had a significant level of activity during the current rating period. These actions, consisting of amendment requests, exemption requests, responses to generic letters, TMI items, and other actions, are classified as follows:

16 multi-plant actions (6 completed): Included in this category are

- ° Inservice testing of pumps and valves 1st ten years (A-14) (complete)
- ° TS changes responding to GL 83-37 (complete)
- ° Fire protection safety evaluation (B-24) (complete)

- TS changes responding to GL-82-16 (complete)
- Natural circulation cooldown GL 81-21 (complete)
- Masonry wall design review - IE Bulletin 8011 (complete)

13 plant specific actions (9 completed): Included in this category are

- TS change NUREG-0737 and miscellaneous items (complete)
- TS change related to  $F_0$  limits and burnup limits (complete)
- ISI/IST 10 year relief extension (complete)
- Fuel assembly failure in spent fuel pool (complete)
- Steam generator tube leak in the area of the tube sheet (complete)
- Rod swap evaluation (complete)
- Fire protection exemptions (2) based on Generic Letter 83-33 (complete)
- ISI relief related to RCP casing welds (complete)
- Degraded grid voltage re-analysis by Region III and support by NRR (complete)

20 TMI NUREG-073 actions (9 completed)

This appraisal also considers the number of backlog actions remaining at the end of this evaluation period. This backlog reflects the number of new actions that were added during this period for which staff effort is currently being applied. At the end of this evaluation period the backlog for Prairie Island stands as follows:

MPA	10
Plant Specific	4
TMI Action	<u>11</u>
Total	25

a. Management Involvement and Control in Assuring Quality

During this reporting period, the licensee's management actively participated in licensing activities and kept abreast of all current and anticipated licensing actions. Typical areas where management participation was evident



occurred in scheduling, planning, and responding to the NRC relating to emergency response capabilities of Generic Letter 82-33. In addition, management involvement in licensing activities assured timely response to the Commission's requirements relating to Fire Protection and Environmental Qualification of Electrical Equipment. The licensee's management has consistently exercised good control over its internal activities and its contractors and has maintained effective communication with the NRC staff. The management's active participation was evident in taking firm involvement in issues of potential safety significance. This was illustrated in management commitments to resolving the issues related to IST and the initiatives devoted to determining the cause of the fuel assembly failure in the spent fuel pool.

One area where management attention could be increased is in the submittal of complete analyses for the purpose of justifying amendment requests, without the necessity for later revisions. When such conditions develop, staff reviews are impeded and timeliness in preparing the safety evaluation for the amendment request is impacted.

b. Approach to Resolution of Technical Issues From a Safety Standpoint

The licensee's management and its staff demonstrated sound technical understanding of issues involving licensing actions. The licensee demonstrated extensive technical expertise in technical areas involving the resolution of technical areas associated with licensing actions. Sound communication was exhibited by the licensee when meeting with the NRC to assure that technical issues were clearly defined. These attributes were demonstrated in the resolutions of relief requests related to the inservice testing program for pumps and valves, amendments associated with Generic Letter 83-37, exemptions related to Fire Protection and the evaluation of the rod swap methodology to name a few of the actions that were resolved during the reporting period. On occasions, when the licensee deviated from the staff guidance as in cases of relief requests for IST and re-analysis of the degraded grid voltage, the licensee consistently provided good technical justification for such deviations. When unusual events occurred at the Prairie Island Nuclear Generating Plant (i.e., fuel assembly failure in the spent fuel pool, steam generator tube leak, Unit No. 1) the licensee has used conservative approaches in dealing with the situation and performed indepth analyses of potential significant safety issues raised by the event. The licensee's visit to NRC to discuss forthcoming requests for staff actions prior to formal submittals demonstrates



the licensee's desire to minimize potential problem areas that could arise during the NRC staff reviews. This approach has been consistently found to be beneficial to both the staff's and licensee's efficiency in processing such actions.

c. Responsiveness to NRC Initiatives

The licensee has been consistently responsive to NRC initiatives. Throughout the rating period, the licensee met or exceeded established commitments which contributed to the reduction of open issues (i.e., MPAs, plant specifics, and TMI NUREG-0737 actions). When the NRC desired clarification or additional information during the review of the licensee's submittals, the responsiveness by the licensee has been judged as excellent. In addition, when clarification or additional information could not adequately be resolved by conference calls and/or correspondence, the licensee has met on short notice with the NRC as soon as they were made aware of our concerns. Typical examples of such performances occurred when the NRC expressed concern with the qualification of equipment in the auxiliary feedwater pump room and the safety issues related to fuel assembly failure in the spent fuel pool. In these examples, the licensee gave oral presentations that exhibited thoroughness and sound technical judgement within several days notice from the time that the NRC expressed concern. The licensee was waiting for NRC to take positions on most submittals related to the remaining open issues at the end of the reporting period, and the licensee committed to reasonable schedules for those open issues where additional information is needed in order to complete the NRC review.

d. Reportable Events

The licensee has reported events promptly and within the time prescribed by the technical specification. The NRC was notified of reportable events and equipment operability problems before formal documentation was issued by the licensee. The licensee also keeps the NRC informed of plant operating trends that could lead to future potential events. In this regard, in March 1984 the NRC was notified of a potential primary-to-secondary leakage problem in Unit No. 1 which resulted in a plant shutdown in October 1984 to inspect and repair the steam generators. The description of this event was clearly presented and corrective actions were technically sound and beyond what is called for in the technical specifications. In addition, if any potential safety concerns arise during resolution of the NRC safety issues, the PM is notified promptly by telephone prior to the issuance of the safety evaluation report.

e. Staffing

The staff found that the licensee's shift staffing exceeded the requirements of the technical specifications by having extra operators on shift during operation and refueling. There were only short periods when the complement dropped to the required level of regulations to accommodate the vacation periods of the staff. In addition, at the end of the reporting period, the NRC was informed that the licensee was planning to have a Health Physicist and an I & C technician on shift in the near future so that these disciplines will have continuous onsite coverage. The licensee has exhibited well thought out staffing requirements for resolving problems associated with the emergency response capability (Generic Letter 82-33). Our in-progress audit of DCRDR concluded that the licensee is planning and conducting the review in a manner which appears to satisfy the requirements of Supplement 1 to NUREG-0737. In addition, another indication of adequate staffing is that the licensee's scheduled dates for completion of NRC items which were judged as reasonable are rarely missed.

2. Conclusion

A Category 1 rating has been assigned for this functional area. The trend during this period remained constant.

3. Board Recommendations

None.

V. SUPPORTING DATA AND SUMMARIES

A. Licensee Activities

During this SALP period, the following activities of interest occurred:

1. August 28 - September 27, 1983: Unit 2 scheduled refueling outage.
2. December 2, 1983 - January 3, 1984: Unit 1 refueling outage. The unit was shut down about three weeks early because of steam generator tube leakage.
3. September 4 - October 13, 1984: Unit 2 scheduled refueling outage.
4. October 21-28, 1984: Unit 1 forced outage for steam generator tube repairs.
5. October 29 - November 7, 1984: Unit 1 forced outage for steam generator tube inspections and repairs.

B. Inspection Activities

The inspection program at Prairie Island during the evaluation period consisted of routine resident and region-based inspections. A special IE Performance Appraisal Inspection limited to the area of maintenance was performed during this SALP period.

Noncompliance Data

Facility Name: Prairie Island, Units 1 and 2  
 Docket Nos.: 50-282, 50-306  
 Inspection Reports No. 83-13 through 83-24  
 No. 84-01 through 84-16

Inspection Activity and Enforcement

<u>Functional Area</u>	Number of Violations in Each Severity Level				
	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>
A. Plant Operations			1	2	3
B. Radiological Controls					
C. Maintenance					
D. Surveillance and Inservice Testing				4	1

E.	Fire Protection					
F.	Emergency Preparedness					
G.	Security				3	
H.	Refueling					
I.	Quality Activities				1	1
J.	Licensing Activities					
	Totals	0	0	1	10	5

C. Investigations and Allegations Review

None were conducted.

D. Escalated Enforcement Actions

1. Civil Penalties

A Severity Level III violation was issued involving the reduction of the number of transmission paths to a safeguards bus below the number allowable by Technical Specifications. (Inspection Report No. 50-282/83-20). As noted in Section A.1 above, the amount of the civil penalty was mitigated to zero on the basis of the licensee's previous good regulatory performance.

2. Orders

None.

E. Management Conferences Held During Appraisal Period

1. Management Conferences

- a. On September 21, 1983, a meeting was held with the licensee to discuss the SALP 4 report assessment.
- b. On December 7, 1983, an enforcement conference was held to discuss the results of the inspection regarding the bus tie violation of November 17. (See also Item IV.A.1 above.)
- c. On July 18, 1984, an enforcement conference was held to discuss the unplanned opening of valves between the Unit 2 RWST and the SI pumps (See Item IV.D.1.(d) above) and other events that occurred during the rating period. (Inspection Report No. 50-306/84-10).

2. Confirmatory Action Letters (CALs)

None.

F. Review of Licensee Event Reports and 10 CFR 21 Reports

1. Licensee Event Reports (LERs)

On August 29, 1983, the NRC published an amendment clarifying its regulations regarding Licensee Event Reports (LERs) required by 10 CFR 50.73. Details of the new reporting system were published as NUREG-1022 "Licensee Event Report System." The effective date of this amendment was January 1, 1984. The new rule deleted reporting requirements for several types of LERs which had been found, through experience, to be of little value to the Commission. Because of this change, the LER's were reported during this period (SALP 5) using both the old guidelines (NUREG-0161) and the new guidelines (NUREG-1022). Comparisons made with previous SALP data should be made with caution.

Licensee Event Reports

Proximate Cause*	SALP Period 3	SALP Period 4	SALP Period 5
	(12 months) 7/01/81 Through 6/30/82	(12 months) 7/01/82 Through 6/30/83	(17 months) 7/01/83 Through 11/30/84
a. Personnel Error	9 (0.75)**	11 (0.92)	14 (0.82)
b. Design, Manufacturing and Construction Installation	0	1	1
c. External Cause	0	0	0
d. Defective Procedure	3	1	2
e. Component Failure	15	12	15
f. Other	4	9	0
TOTALS	31 (2.58)	34 (2.83)	32 (1.88)

\*Proximate cause is the cause assigned by the licensee according to NUREG-0161, "Instructions for Preparation of Data Entry Sheets for Licensee Event Report (LER File)", or by NUREG-1022, "Licensee Event Report System."

\*\*Numbers in parentheses are the LERs/Month.

The LERs reviewed typically provided clear descriptions of the cause and nature of the events as well as adequate explanations



of the effects on both system function and public safety. Supplemental information also was provided in some of the LERs reviewed. The described corrective actions taken or planned by the licensee were considered to be commensurate with the nature, seriousness, and frequency of the problems found.

SALP 5 encompassed a seventeen month period while each of the previous two periods comprised a twelve month interval. With these facts in mind, the above data appear to indicate a reduction in personnel errors during the assessment period, though, as noted above, comparisons are difficult because of the change in reporting requirements.

Subsequent to the end of the SALP 5 reporting period, personnel errors have occurred in the areas of operations and surveillance. The SALP Board has a continuing interest in the performance trends of personnel errors. Due to the apparent declining trend, this concern will be closely followed during the SALP 6 reporting period.

2. 10 CFR 21 Reports

One such report was reviewed during the rating period. This was a report from Baxter Fluidpower Group concerning two potentially defective Anker-Holth snubbers. The licensee investigated and reported that the snubbers had been removed in 1980 and 1981.

G. Licensing Actions

1. NRR/Licensee Meetings

October 13, 1983 - appeals meeting IST 1st 10 year program  
December 1, 1983 - Environmental Qualification SER  
February 13, 1984 - Appendix R (exemption SER III.G.2 and III.O)  
October 22, 1984 - Environmental Qualification (Equipment in Auxiliary Feedwater Pump Room)

2. NRR Site Visits

September 19-21, 1983 - Attended SALP 4 Management Meeting with the licensee; visited plant coordinated NRR licensing actions with Resident Inspector and plant personnel

March 6-9, 1984 - Monitored the in-progress audit of the licensee's Detailed Control Room Design Review (Part of GL 82-33)

July 16-18, 1984 - Met with the Resident Inspector to resolve licensing questions related to the enforcement conference

3. Commission Briefings

None.



4. Schedular Extensions Granted

Two month extension related to ISI/IST 10 year inspection program was granted on December 25, 1983.

Extension Equipment Qualification to March 31, 1985 was granted on December 13, 1983.

5. Reliefs Granted

IST 1st 10 year Program, approximately 30 reliefs granted January 31, 1984

ISI, one relief granted, Reactor Coolant pump casing welds October 23, 1983

6. Exemptions Granted

Fire Protection, 10 CFR 50 Appendix R, Subsection III.G.2, Separation

Fire Barriers, etc., 4 fire areas both units, January 9, 1984

Fire Protection, 10 CFR 48(C) schedular both units, April 26, 1984

Fire Protection, 10 CFR 50, Appendix R, Subsection III.G.2 and III(O).

7. License Amendments Issued

Amendment No. 71, Unit 1, steam generator tube operability requirements due to defects found in the tube sheet region, October 18, 1984

Amendments No. 70 and 64, Units No. 1 and 2, TSs revised to include NUREG-0737 and miscellaneous items, September 12, 1984

Amendments No. 69 and 63, Units No. 1 and 2, TSs revised in response to Generic Letter 83-37 pursuant to NUREG-0737 items, March 27, 1984

Amendments No. 68 and 62, Units No. 1 and 2, TS revised to include requirements for the following items:

containment H<sub>2</sub>O recombiners

K(z) curve explanation

snubber additions

CL<sub>2</sub> detection system, NUREG-0737 (III.D.3.4)

control room air treatment

steam exclusion system

NUREG-0737, Items II.F.1.4, II.F.1.5, and II.F.1.6

February 21, 1984

Amendments No. 67 and 61, Units No. 1 and 2, TS revised to extend dependence functions  $B_{uz}$  to 1.0 for all values of Fuel Pellet Burnup from 0-55 GWD/MTO, December 28, 1983

Amendments No. 66 and 60, Units No. 1 and 2, revised to limit the core local heat flux ratio  $F^N Q$  from 2.21 to 2.32, October 3, 1983

Amendments No. 65 and 59, Units No. 1 and 2, changed to revise Na OH concentration in the spray additive tank, September 1, 1983

8. Licensing Orders Issued

Unit 1 and 2 - Order confirming licensee commitments on Emergency Response capability as required by Supplement 1 to NUREG-0737, June 14, 1984

FEB 14 1985

Docket No. 50-352, 50-353

Philadelphia Electric Company  
ATTN: Mr. S. L. Daltroff  
Vice President  
Electric Production  
2301 Market Street  
Philadelphia, Pennsylvania 19101

Gentlemen:

Subject: FEMA Evaluation of Supplemental Exercise

Attached is a copy of the exercise evaluation report prepared by the Federal Emergency Management Agency (FEMA) for the November 20, 1984, supplemental exercise of the offsite radiological emergency preparedness plans for the Limerick Generating Station. FEMA will furnish a copy of this report to the Commonwealth of Pennsylvania and request a schedule for corrective actions for the deficiencies identified.

This exercise report identifies one Category A deficiency. One municipality, South Coventry Township, elected not to participate in the supplemental exercise. This lack of participation by South Coventry has been cited as a Category A deficiency in the enclosed report.

We request that you continue to coordinate your planning efforts with those of the Commonwealth and local emergency planning authorities to assure deficiencies in offsite emergency preparedness are expeditiously corrected.

If you have any questions concerning this matter, please contact Mr. Ronald Bellamy of my staff at (215) 337-5200.

Sincerely,

Original Signed By  
Thomas T. Martin  
Thomas T. Martin, Director  
Division of Radiation Safety  
and Safeguards

Enclosure: As stated

OFFICIAL RECORD COPY

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FEB 14 1985

cc w/o encl:

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FEDERAL EMERGENCY MANAGEMENT AGENCY

REGION III

EXERCISE EVALUATION REPORT

FACILITY: LIMERICK GENERATING STATION  
Limerick Township, Montgomery County, Pennsylvania

REPORT DATE: December 7, 1984

EXERCISE DATE: November 20, 1984

PARTICIPATING:  
JURISDICTIONS: Risk Municipalities as noted in Exercise Summary  
Support County of Bucks

NON-PARTICIPATING:  
JURISDICTIONS: South Coventry Township, Chester County

~~854117/11/84~~

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## SUMMARY

The supplemental exercise held on November 20, 1984, involved the participation of municipalities within Montgomery, Chester, and Berks Counties and the support County of Bucks which did not participate in the initial full participation exercise held on July 25, 1984. Several municipalities who did play during the initial exercise elected to participate again and decided improvements in response capabilities were observed. South Coventry Township elected not to participate in either the initial full participation exercise or the supplemental exercise, therefore; no capability to protect their citizens in the event of an accident at the Limerick Generating Station was demonstrated.

The participating EOC staffs displayed a serious commitment to and involvement with emergency response activities. For this exercise 24-hour staffing capabilities were demonstrated in all EOCs except Union Township, Berks County and Warwick Township, Chester County. The Emergency Management Coordinators in these two municipalities are trying to recruit additional personnel for a second shift. Municipal plans should be updated to show the manning demonstrated in the exercise.

As was the case in July 25, 1984, potassium iodide, low-range, self-reading dosimeters and thermoluminescent dosimeters were not available for local EOC personnel and emergency workers. In addition some jurisdictions need additional training in radiological exposure control.

This equipment should be procured and training scheduled for appropriate personnel as soon as possible.

Many of the EOC staff went beyond those activities called for in the scenario by actually manning traffic control points, performing route alerting and actually calling all handicapped people and those residents needing transportation. The complete report for each location is contained later in this report and will address deficiencies/recommendations applicable to that specific location.

## BACKGROUND

Federal requirements dictate that Radiological Emergency Response Preparedness exercises be conducted in support of nuclear power plants to evaluate major portions of emergency response capabilities. The exercises test the integrated capability and a major portion of the basic elements existing within emergency preparedness plans and organizations. The exercises simulate a coordinated response by state and local authorities, along with the utility, to include mobilization of personnel and resources adequate to verify the capability to deal with an accident scenario requiring responses up to, and including, evacuation. On July 25, 1984 the initial full scale exercise was held for the Limerick Generating Station and various off site organizations. During the initial exercise some of the off site jurisdictions did not participate; which resulted in the necessity to conduct a supplemental exercise to evaluate those jurisdictions not participating in the exercise on July 25, 1985.

This Supplemental Report will record the capabilities of local governments to respond to an accident at the Limerick Generating Station based upon actual demonstration or simulation of their abilities during the November 20, 1984, supplemental exercise.

The exercise was observed by a team of individuals from FEMA Region III and the American Red Cross.



PARTICIPATING JURISDICTIONS

Plume EPZ Jurisdictions

Douglass Township, Montgomery County  
Green Lane Borough/Marlborough Township, Montgomery County  
Lower Providence Township, Montgomery County  
Lower Salford Township, Montgomery County  
Schwensville Borough, Montgomery County  
Skippack Township, Montgomery County  
West Pottsgrove Township, Montgomery County

Warwick Township, Chester County

Amity Township, Berks County

Union Township, Berks County

Support County

Bucks County-Reception and Mass Care

NON-PARTICIPATING JURISDICTIONS

South Coventry Township, Chester County

LIST OF OBSERVER ASSIGNMENTS

RAC Chairman

James Asher

Montgomery County

Douglass Township EOC

Steve Hopkins

Green Lane Borough/Marlborough Township EOC

Fred Schmauk

Lower Providence Township EOC

Rick Kinard

Lower Salford Township EOC

Karen Larson

Schwenksville Borough EOC

Dale Petranech

Skipack Township EOC

Janet Lamb

West Pottsgrove Township EOC

Joe Gavin

Chester County

Warwick Township EOC

Bill Curtis

Berks County

Amity Township EOC

Steve Adukaitis

Union Township EOC

Joe McCarey

Bucks County

Reception/Mass Care

Dale Petranech

Communications

Joe Zagone  
Mike St. Angelo

## EVALUATION CRITERIA USED

The local governments' response capabilities during this supplemental exercise were evaluated in relationship to the draft Radiological Emergency Response Plans for each municipality. These plans were developed in accordance with NUREG 0654/FEMA Rev.1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980.

## OBJECTIVES OF THE EXERCISE

1. Demonstrate the capability of county and municipal emergency service agencies, volunteer agencies and support services to respond in a timely manner and in accordance with RERP plans to an incident at a fixed nuclear facility.
2. Provide timely notification to elected officials, appointed officials, volunteers, Emergency Operations Center staff and emergency workers.
3. Demonstrate the capability to initiate public alert/notification and information.
4. Demonstrate effective and timely communications, both external and internal.
5. Exercise the capability of state, county and municipal emergency response personnel to implement the issuance of dosimetry and/or KI and the record keeping and decontamination procedures.
6. Demonstrate the adequacy of the Emergency Operations Centers with respect to security, space, comfort, staffing and function for managing responses to nuclear facility incidents.
7. Display the knowledge of plans and standard operating procedures as they relate to state, risk and support counties and municipal emergency response plans.
8. Demonstrate the capability to implement sheltering or evacuation and take actions to activate support functions.

## SCENARIO

Unit 1 at the Limerick Generating Station is operating at 80% of rated power. One condensate pump is out of service for repairs. All other power generation and safety system equipment are operational. Meteorological data are representative of unstable conditions. The average wind velocity is 8 miles per hour from the southwest. The current temperature is 56 degrees with a cold front approaching from the northwest. At 1800 an alert is declared at the facility because of a scram with a small leak. Site Area Emergency is declared at 1900 because of scram with a loss of coolant. At 1945 due to an unexpected release of highly radioactive gases the facility recommends sheltering immediately.

Due to pressure increase, within the reactor the facility declares a General Emergency at 2015. Reactor water level is decreasing and high radiation readings in the containment building indicate fuel damage. De-escalation of the General Emergency to an Alert status occurs at 2045.

### Chronology of Events

<u>Projected Time</u>		<u>Actual Time</u>
1800	Alert	1800
1900	Site Area Emergency	1900
1945	Sheltering Recommended	1955
2015	General Emergency	2015
2045	De-Escalation to Alert	2043
2100	Termination	2055



## EXERCISE REPORTS

### Douglass Township EOC, Montgomery County

#### I. Activation and Staffing

Activation and staffing of the EOC occurred according to plan and without problem. The call initiating action, the Alert notification, was received at the EOC from Montgomery County at 1809. Verification, if it occurred, was not observed. The township Emergency Management Coordinator (EMC) was present at the EOC at the time, and took the call. Staff mobilization procedures were adequately demonstrated. The EMC used an up-to-date, written call list to notify the staff. Full staffing, for one shift, was completed by about 1830. The staff positions included the EMC, Fire Services Officer, Police Services Officer, Medical Services Officer, and Public Works Officer. One township supervisor was present, and two RACES operators arrived later, during the Alert stage. All positions were eventually double-staffed (the Deputy EMC was the last to arrive, at about 2030), demonstrating two-shift capability for round-the-clock operations. The staff, in general, displayed adequate training and knowledge.

#### II. Emergency Operations Management

The EMC, as designated in the plan, was in charge of the Township's emergency response operation. Periodic staff briefings were not held, but were not necessary due to the small staff size and relatively low level of action generated by the scenario. Staff members were involved in decision-making regarding their own responsibilities, and plans and SOPs were available and referenced. Message logs were kept, and a status board was maintained with the emergency classification levels posted. EOC security was very good, with access controlled by the Township police.

The EOC received notification of the major events as follows: Plant at Alert status at 1803; plant at Site Area Emergency at 1903; plant at General Emergency Status at 2020; "take shelter directive at 1955.

The capability to take appropriate emergency response action was demonstrated, but such actions were, for the most part, simulated.

As noted previously, one elected official, the Chairman of the Board of Supervisors, was present during the exercise.

#### III Facilities

The Township is presently in the process of building a new EOC within the Gilbertsville Fire Station (the former EOC was located in the

township municipal building). Construction and outfitting of this facility was not yet complete, but it was adequate for conduct of the exercise. The new EOC provides sufficient space and lighting, and two telephones were installed the afternoon of the exercise. Additional telephones were located elsewhere in the fire station, as were kitchen facilities and back-up power capability. Other communications equipment, including a roof-mounted antenna for RACES, had not yet been installed. Maps of the county and township were available, but there were no maps depicting the ten-mile EPZ, evacuation routes, traffic control points, or reception centers.

It is recommended that this facility be completed as quickly as possible, including the installation of all furnishings and communications equipment, and the posting of appropriate maps.

#### IV Communications

The communications operation for Douglass Township is presently adequate, and when present renovations to the EOC are completed should be excellent. The primary pre-alert stage means of communication is the telephone. The primary post-alert stage means of communication is the RACES/ARES network, backed up by two touch tone lines and telephones. An additional two touch tone lines and telephones are on order and will be installed shortly. In addition, the communicators have access to the Township Fire Radio Net and the Township Police Radio Net. They also have a scanner. They are in radio contact with the Ambulance Service. They presently use a "rubber-duck" antenna for the RACES radio. Vehicle installation kits (which are powered through the vehicle batteries) are used for backup power. They have an external antenna on hand, and are planning to install it permanently in the near future. The Township SOPs were on hand and the communicators appeared to be following them. There were adequate personnel for 24-hour operations. The only drawback to the operation was the high noise level in the EOC, but this should be rectified when the renovations are complete.

#### V. Dose Assessment and Protective Action Recommendations

Not applicable.

#### VI. Public Alerting and Instruction

Township officials demonstrated their capability to perform their designated role in the public alerting process. In accordance with the plan, the EMC had a list identifying township institutions, including schools, churches, and commercial establishments, which are to be notified at the Alert stage. The EMC simulated performing such notification at that time.

Responsibility for activating the primary alert and notification system, the sirens and EBS, resides with the county; the township is

responsible for implementing route alerting in the event of siren failures, and to notify the hearing-impaired. The county informed the township EOC staff at 1955 that activation of the sirens and EBS would be simulated, beginning at 2000. They also advised that route alerting was not to be performed. The township officials, however; described their route alerting procedures, and simulated dispatching route alert teams to notify the 21 hearing-impaired residents which have been identified. This was done following activation of the sirens, as specified in the plans.

The preparation and distribution of emergency instructions for the public are responsibilities of the State and county.

#### VII. Protective Action

As the protective action recommendation was for sheltering in place, the exercise did not provide the opportunity for the township to implement evacuation, establish traffic control, and provide transportation. However, these matters were discussed with township officials, and they provided lists containing the names and addresses of residents requiring ambulances or other forms of special assistance for evacuation. Township officials also reported that they had sufficient resources to man the five traffic control points designated in the plan.

#### VIII. Radiological Exposure Control

No dosimetry or KI, real or simulated, was available at the EOC. Officials partially demonstrated the procedures for distributing dosimetry and KI to EOC personnel at the Site Area Emergency phase, including the filling out of receipt forms. However, instructions were not provided, and this activity did not provide sufficient evidence that the township emergency personnel are adequately familiar with the procedures for the use of dosimetry and KI. An appropriate quantity of high and low-range self-reading dosimeters, thermoluminescent dosimeters, and KI tablets should be obtained and pre-distributed to the township, and the emergency personnel should demonstrate their familiarity regarding the use of these items in future exercises.

#### IX. Media Relations

This is a responsibility of the County.

#### X. Recovery and Reentry

This was not an exercise objective.

#### Douglass Township Deficiencies/Recommendations

1. The township EOC is presently under construction. This facility should be completed as quickly as possible, the necessary furnishings

and communications equipment should be installed, and appropriate maps posted.

2. Dosimetry and KI were not available, the capability of the township emergency personnel to implement effective radiological exposure control was not demonstrated. Adequate supplies of high and low-range self-reading dosimeters, thermoluminescent dosimeters, and KI should be obtained, and the emergency response staff should demonstrate their familiarity with the proper use of these items in future exercises.

### Greenlane Borough and Marlborough Township EOC

#### I. Activation and Staffing

An initial telephone notification was received by the Emergency Management Coordinator from the Montgomery County EOC at 1811 at his home. A call was also received on the Fire Radio at the Municipal EOC (Township Municipal Building) at 1809. Verification was made from the municipal EOC. The Deputy EMC was present at the EOC at least one hour prior to the Alert which was 1811. The Borough/Township emergency staff continued to arrive and staffing was complete at 1843. Staff members were mobilized according to written procedures. Total staff numbered twelve persons, representing: the Borough Mayor, Borough Council President, Borough Council, Borough Ambulance, Radiological, Transportation (Med/Amb), Communications. Another eight persons were staffed at the Borough Fire Hall. Those persons represented the Fire Police, Firemen and the Community Ambulance Service. The Borough Mayor acted as the liaison, operating between the EOC and the Borough Fire Hall. The staff displayed a thorough knowledge of their responsibilities. Round-the-clock staffing capability was not demonstrated as this exercise was only three hours in duration. The short duration of the exercise also eliminated the necessity for a shift change.

#### II. Emergency Operations Management

The Deputy EMC demonstrated capable leadership of the Borough/Township emergency functions until the EMC arrived at the EOC. He then took the "assistant" role to the EMC. The EMC periodically consulted with his staff and discussed the current situation. Incoming messages were handled very efficiently. They were logged in and posted on the status board. The Deputy EMC was in charge of security and controlled the access of persons to the EOC. The EOC was notified of the Alert status at 1811, the Site Area Emergency status at 1903, and the General Emergency status at 2018 by the county. Action was taken to coordinate emergency activities of the police, fire police, firemen and the Community Ambulance Service at 1820. There were four elected officials (the mayor, president of council and two council members) from the Borough and one elected official from the Township (a supervisor) that demonstrated effective



coordination and decision-making during the emergency activities.

### III. Facilities

The EOC, established in the all purpose room of the Township Building, was fully adequate for the purpose. There was sufficient space, furnishings, lighting and telephones. The room was such a size that it would support an increase in staff for an extended time. There was an adequately sized status board that was kept up to date with significant events. The plume EPZ, with sectors labeled was posted. Evacuation routes, relocation centers, access control points, radiological monitoring points and population by evacuation area were not posted but were available. The population of the Borough which is in the plume EPZ is 287. The EOC has a travelling dosimetry team.

### IV. Communications

The communications capabilities were good. The EOC was equipped with two standard telephone lines, two private "red" phones and two walkie talkies that were used in conjunction with the county fire net. The backup to the primary communications system was the RACES net with two operators.

### V. Dose Assessment and Protective Action Recommendation

Not applicable.

### VI. Public Alerting and Instruction

The Fire Police and Firemen, located in the Borough Fire Hall, performed route alerting throughout the community. A call from the County EOC initiated the process of public alerting.

### VII. Protective Action

Activation of traffic control points was not applicable in this exercise since protective actions called for sheltering. All the roads having access to the contaminated area were blocked by the State Police and not by the Borough or Township. The EOC had a list of mobility-impaired individuals. However, after contacting these people, they found that there now is only one non-ambulatory resident in the township and none in the borough. The RER plans indicated that there were 25 residents in the borough and 15 residents in the township who require transportation assistance in the event of an evacuation. However, after going through their written records and placing calls, the EOC staff found that presently there are no persons in the borough or township requiring this service.



## VIII. Radiological Exposure Control

The dosimetry equipment and the instructions for same is handled by the county and not the borough or township. However, EOC personnel have received training and are aware of proper procedures concerning its use, the maximum dose allowed without authorization and decontamination procedures. The only measures taken to protect the EOC personnel against exposure was not using the ventilation system.

## IX. Media Relations

This is a responsibility of the County.

## X. Recovery and Reentry

This was not an exercise objective.

## Lower Providence Township EOC, Montgomery County

### I. Activation and Staffing

The township received a call from the County communications center at 1812 informing them of the Alert status at Limerick. The call was verified and activation of the staff would normally take place at this point in time. However, because of the limited time period of the drill, the staff was repositioned in the EOC prior to the Alert.

A written call list was available with the home and business numbers of all staff. This list would be utilized by the township police to notify the staff at any hour of the day or night.

Positions represented at the EOC included the Emergency Management Coordinator, Police, Fire, Medical/Rescue, Transportation, RACES and a Radiological Officer. In addition, a group of approximately 35 volunteer firefighters/citizen volunteers was also on hand at a local firehouse. The staff displayed adequate training and knowledge, and tried throughout the exercise to anticipate problems before they occurred. A roster was presented to the observer which designated two people to each EOC staff position.

### II. Emergency Operations Management

The Emergency Management Coordinator, as designated in the township's RERP was effectively in charge of operations. Periodic briefings were held and the staff was involved, when appropriate, in decision-making. Copies of the plan were available and checklists for the various positions were also on hand and were consulted when necessary. The logging of messages was sporadic until well into the exercise when the EMC and other staff members recognized the need for an efficient message handling system, including the logging of all messages (both RACES and telephone), routing through the EMC and

distribution to the appropriate staff member.

Access to the EOC was controlled through the use of a sign-in sheet and a locked door.

The township received the Site Emergency declaration at approximately 1905, were informed they should shelter at about 1955 and received the General Emergency message at about 2020. The police, fire and ambulance organizations were updated throughout the exercise on the status of the emergency and what actions they should take. Elected officials were not present or involved in exercise play.

### III. Facilities

Sufficient furniture, space, lighting and telephones are available for an emergency response. More of an effort should be made to control noise as three different radio networks were being broadcast into the EOC at various times. A status board was clearly visible and was kept up-to-date on significant events throughout the exercise. Maps were available with such information as the plume EPZ, evacuation routes, traffic control points and sectors for the route alert teams.

### IV. Communications

Lower Providence Township had three methods of communication throughout the simulated emergency. They included commercial telephone, RACES, and the police/fire/emergency medical services radio net. All three networks were used during the exercise, functioning in an efficient manner, and giving the township rapid communications with all appropriate jurisdictions. The township staff gave some indication that RACES would be located in a room adjacent to the EOC in an actual event. This idea should be acted on in order to cut down on the noise in the EOC.

### V. Dose Assessment and Protective Action Recommendation

Not applicable.

### VI. Public Alerting and Instruction

At approximately 1955, Lower Providence Township received a telephone call from the Montgomery County EOC informing them that sheltering should be initiated at 2000 and that the siren system and EBS would be activated (simulated) at that point. A radio was available in the EOC to monitor the designated EBS station (KYW-AM). Because of the somewhat limited nature of the exercise, the township did not actually send any route alerting teams out. They are instructed, however; to inform residents to tune to their EBS station.

## VII. Protective Actions

The twelve traffic control points identified in the township RERP were activated in a prompt manner. Traffic volume was discussed as were such issues as dealing with bad weather and stalled or wrecked cars during an evacuation. Adequate resources exist to handle the traffic control responsibilities.

The township has a comprehensive list of various residents with special needs or concerns. The list includes those who are hearing-impaired, need transportation, require an ambulance or need special assistance. Simulated arrangements were made to deal with these people. The lists contain information as to the location of the individuals and any special needs they might have.

## VIII. Radiological Exposure Control

At the present, the township only has a supply of high-range, self-reading dosimeters, chargers and record keeping cards. Neither low-range dosimeters, TLDs, or KI currently exist for emergency workers. The supply of radiation monitoring equipment is stored at the Montgomery County EUC, located only a couple miles from the Lower Providence Township EOC. Adequate instructions exist concerning the proper use of dosimetry/KI. The Radiological Officer is aware of the maximum dose allowable without authorization and the procedures for decontamination.

## IX. Media Relations

This is a responsibility of the County.

## X. Recovery and Reentry

This was not an exercise objective.

## XI. Scenario

Based upon the limited objectives established for this exercise, Lower Providence Township displayed an ability to respond to an accident at Limerick. Although the staff participated in a most professional manner, it is felt that they would benefit from a more challenging scenario in the future, involving the actual display of various responsibilities.

### Lower Providence Township Deficiencies/Recommendations

1. At times the noise in the EOC made it difficult to be heard. Consideration should be given to locating other functions, such as RACES outside the main operations room.

2. Message handling was haphazard. An organized system, such as was discussed by the staff during the exercise should be implemented.
3. Elected officials should take a more active role in future exercises.
4. An attempt should be made to schedule a more involved exercise prior to the next scheduled full participation exercise in 1986.

#### Lower Salford Township EOC, Montgomery County

##### I. Activation and Staffing

A telephone call from Montgomery County to the Emergency Management Coordinator's home at 1823, notifying the EMC of an Alert at the Limerick Generating Station acted to initiate activation of the Lower Salford Township EOC. The EMC arrived at the EOC at 1823, and immediately began staff mobilization procedures, hooking up telephones, and posting the status board. Mobilization procedures were well organized and quickly accomplished. Staffing included the Emergency Management Coordinator (EMC), Deputy EMC, Police, Fire/Rescue, Transportation/Medical, Communications Coordinator, and one RACES operator; all staff were present at 1903. With the exception of the RACES operator, all positions were double staffed in order to demonstrate 24-hour manning capability.

Staff representatives were in general knowledgeable with regard to their individual areas of responsibility, however; specific training concerning the use of dosimetry, KI, and emergency worker protective actions in general is needed.

##### II. Emergency Operations Management

Emergency operations management was directed by the EMC, in accordance with the township RERP. A deputy EMC, though not included in the plan, was very instrumental in the overall operations management, briefing the staff, coordinating unmet needs, etc. Written check-lists or "information procedures" were available for each of the EOC positions and proved to be effective in coordinating the completion of emergency response tasks. Message logs were kept by each of the staff representatives.

Access to the EOC was controlled by way of locked entry to the operations room, and sign-in and out procedures.

The EMC reported that he was notified of the Alert classification at 1823 by way of a call to his home from the county. Site Area Emergency was received over commercial telephone line at 1908. At 1958 a RACES message, transmitted at 1947, was logged and the staff briefed regarding the Governor's proclamation of a disaster emergency, and although the message included the advisory that this did not correspond with on-site emergency classifications, the status



board was updated to indicate: "Site at General Emergency-no evacuation." The EOC was notified at 2003 that the plant was at General Emergency, sheltering was recommended, and sirens and EBS were simulated at 2000. At 2013 a RACES message, aired at 1955, was read to the staff, which indicated siren and EBS simulation at 2000, and that sheltering was recommended. At 2021, a RACES message transmitted information regarding a 2015 declaration of General Emergency, and that "protective actions remain continue sheltering." At 2049, a RACES communication deescalated response operations to Alert Status at 2043. A Township Supervisor arrived at 1906 and was briefed by the EMC concerning EOC activities, but was not involved in response operations.

### III. Facilities

The Lower Salford Township EOC was amply provided with furniture, space, and lighting to support response operations. The use of the two existing commercial telephone lines proved cumbersome in meeting the communications needs of all the staff. A third line is reportedly in the process of being connected; the installation of this third line should act to facilitate EOC communications capabilities.

A status board was clearly visible and was up-dated to indicate changes in classification levels. Additional training should be provided to the individual responsible for updating the board with regard to emergency classification levels versus the Governor's proclamation of a disaster emergency. Maps were posted in the EOC which indicated the areas of the township affected by the plume EPZ, evacuation routes, and access/traffic control points. Information regarding the area population and relocation centers was available but not posted.

### IV. Communications

The primary means of communication with the county EOC is via two existing commercial landlines. RACES was used as a back-up means of information gathering at the township EOC. Portable hand-held radios were on hand which tied into the township fire department. Permanent installation of the RACES antenna is reportedly scheduled for the near future.

### V. Dose Assessment and Protective Action Recommendation

Not applicable.

### VI. Public Alerting and Instruction

Route Alerting was not demonstrated during this exercise, although calls were placed to put route alert teams on standby. The area of the township which is located within the 10-mile EPZ has been divided into two sections. According to the EMC, the maximum time required



to complete route alerting for the larger of the areas is fifteen minutes.

Notification of siren and EBS activation (simulated) at 2000 was not received at the EOC until 2003. More advanced notification of siren and EBS activation would act to coordinate emergency response activities. A RACES message on siren and EBS activation, sent out at 1955, was not given to the EMC until 2013. Critical messages of this nature should be passed immediately to the EMC. The EMC should clarify this with the RACES operator.

#### VII. Protective Action

Three traffic control points were directed to be set up at 2004, following notification of General Emergency and recommended protective actions. These traffic control points were reported as being manned at 2022. The EMC queried police and the Transportation Coordinator with regard to possible road blocks. A listing of available equipment from Public Works is not currently available at the EOC, but is reportedly under development.

Lists of persons requiring transportation assistance, special medical requirements and the hearing-impaired were used to actually contact these individuals to certify the continuing need for this assistance. Of the three listed hearing-impaired individuals, one was determined to be residing outside of the 10-mile EPZ, and the other two residents were reportedly not at home when visited by police representatives. As indicated by the EMC, all activities concerning ingestion pathway protective actions would be coordinated by the Department of Environmental Resources and the Department of Agriculture.

#### VIII. Radiological Exposure Control

No dosimetry equipment was available at the Lower Salford Township EOC. Dosimetry requirements for police (16), ambulance (5), and fire/police emergency workers (3) were verbally reported to the Deputy EMC and relayed to the county as an unmet need. Simulated TLDs, pocket dosimeters, chargers and record keeping forms were signed out to a fire/police representative for simulated distribution to emergency workers. No detailed instruction was provided with regard to the use of the equipment. Although by plan the Fire Services Officer is responsible for the distribution of dosimeters and KI to emergency workers, and also for the training of EOC personnel and emergency workers in the use of this equipment, representatives at the EOC were not versed in the proper use of the equipment, record keeping forms, or KI. It is recommended that this equipment be provided in future exercises so that all personnel may become acquainted with its use, and that detailed training be provided to all emergency workers.

#### IX. Media Relations

This is a responsibility of the county.

#### X. Recovery and Reentry

This was not an exercise objective.

#### XI. Scenario

Although the scenario called for the simulation of many activities within the course of this exercise, the EOC staff extended their involvement to provide actual completion of many activities, i.e., manning of traffic control points, convening route alert teams to a standby status, attempting to contact all persons requiring special assistance, and the distribution of simulated dosimetry equipment. All staff persons demonstrated a serious involvement and dedication to the exercise play, and were encouraged to openly address perceived imperfections in the emergency response organization. Future exercises; however, should demonstrate route alerting capabilities and distribution of actual dosimetry equipment.

#### Lower Salford Township EOC Deficiencies/Recommendations

1. Training should be provided to all EOC staff and emergency workers in the proper use and handling of dosimetry equipment and KI, and with regard to emergency classification levels. Distribution of this equipment should be demonstrated in future exercises.
2. The township should complete existing plans for the installation of a third commercial telephone line and permanent installation of the RACES antenna.
3. A listing of available public works equipment resources should be developed and maintained by the township.
4. Future exercises should demonstrate route alerting activities.
5. The county sent a message out over RACES at 1955 advising them that the sirens would be activated at 2000. However, this message never got to the EMC at Lower Salford Township until 2013. The EOC was notified at 2003 that the sirens and EBS would be activated at 2000. The RACES operator should give critical messages to the EMC immediately. The EMC should clarify this with the RACES operator. In addition, the county should insure that all municipalities are notified prior to activation of alert and notification systems.

## Schwenksville Borough EOC, Montgomery County

### I. Activation and Staffing

A call from the county informed borough officials of an Alert at Limerick at 1801. The Alert notification was verified and the call down of emergency personnel began at that time. The borough plan had no checklist for actions to be taken during the various emergency classification levels. This resulted in one person not arriving at the EOC until 1923, 13 minutes after Site Emergency was declared.

The EOC was moved into a room in the borough fire house. Ample space was available for the borough government, volunteer fire officials, RACES, and the borough police. A roster for a second shift is available if 24-hour coverage is needed.

### II. Emergency Operations Management

The Deputy Emergency Management Coordinator was effectively in charge of the exercise. The EMC did make an appearance but was ill. The deputy EMC briefed the staff on all message traffic. The borough was notified of Alert at 1801, Site Area Emergency at 1908, take shelter at 2003, General Emergency at 2018 and deescalation to Alert at 2052.

The Governor's message that enabled the State to release funds was clear and easy to understand. It was written in a way so as not to confuse it with the General Emergency declaration. The message notifying the borough of activation of the alert and notification system (sirens and EBS) was not received until 2003, three minutes after they had been activated at 2000.

The deputy EMC placed a call to the county requesting assistance in manning traffic control points and transportation for the handicapped. The borough mayor was present throughout the exercise.

### III. Facilities

The EOC had sufficient equipment to respond to an emergency. A status board was kept current on significant events. Displays of maps, charts indicating evacuation routes and population figures were available.

### IV. Communications

Radio, backup telephones, and RACES equipment provided excellent communications. Radio communications with police, fire trucks (used for route alerting), and local ambulance services were available.

### V. Dose Assessment and Protective Action Recommendation

Not applicable.

## VI. Public Alerting and Instruction

The borough plans to supplement the siren system with route alerting. Tests during a previous exercise indicated that the route alerting takes 40 minutes to complete. The activation of the alert and notification systems was simulated during this exercise.

## VII. Protective Actions

The borough requested county assistance in manning traffic control points. These actions were simulated during the exercise. The borough had a list of physically impaired individuals and plans for notifying the hearing-impaired residents. The plan was activated but actual notification and pickup of residents was simulated. The borough staff expressed concern over the need for transportation of EOC staff members' dependents.

## VIII. Radiological Exposure Control

The issuing of dosimetry was simulated. These materials are not available. Appropriate instructions were issued on dosimeters and record keeping.

## IX. Media Relations

This function is a county responsibility.

## X. Recovery and Reentry

This was not an exercise objective.

## XI. Scenario

Based on the limited requirements of the scenario, the borough responded in an adequate manner. Future exercise scenarios should include more extensive play at the municipal level.

### Schwenksville Borough Deficiencies/Recommendations

1. The RER Plan should include a checklist (guidelines) for actions to be taken during each emergency classification level.
2. The county notified Schwenksville Borough EOC of activation of the alert and notification system at 2003, after it had already been activated. Sufficient time should be allotted so the county can alert the borough before the system is activated.
3. The borough and county should discuss the matter of transportation for borough EOC staff's dependents.



## Skippack Township EOC, Montgomery County

### I. Activation and Staffing

At 1820, the Emergency Management Coordinator received a call from Montgomery County EOC advising him of an Alert at the Limerick Generating Station. He called the Township Building and informed them that he was on his way. He arrived within a few minutes and initiated staff mobilization procedures. Written call lists were used and were up-to-date. After calling staff members, the EMC set up the Township Building as the EOC. Staffing of the EOC was complete at 1843. EOC staff consisted of Township Supervisors, Emergency Management Coordinator, Fire Services Officer, Township Special Police, Transportation Officer and Public Works Officer. The staff in general displayed adequate training and knowledge to respond to an emergency in the township. Round-the-clock staffing capabilities were demonstrated by presentation of a roster and double staffing.

### II. Emergency Operations Management

The Emergency Management Coordinator, who is designated in the plan, was effectively in charge of the township emergency response. He briefed the township supervisors continuously on the status of the incident. The appropriate RER plans, implementing procedures, and checklists were available and utilized throughout the exercise. Message logs were kept and messages distributed as appropriate. It was suggested that the EMC try to recruit a person to act as the message clerk on the response team in order to relieve him of that duty. Access to the EOC was controlled. The EOC was notified of Alert at 1820, Site Area Emergency at 1905 and General Emergency at 2018. Protective Action decisions to take shelter were received at 1955. The township supervisors were present and actively involved throughout the exercise.

### III. Facilities

The facilities in Skippack Township EOC are more than adequate. Sufficient furniture, lights and telephones are available. A backup power generator is available. Emergency classification levels were posted on a status board visible to all staff members. It was updated as the situation changed.

Maps of the EPZ, township, township evacuation routes and route alert sectors were available.

### IV. Communications

The primary means of communications with the county is the commercial telephone. Four lines are available, two in the emergency operations area and two in adjoining offices. The RACES system was used extensively both by the county and the township as a backup system.



The fire net is also available as an additional backup communications system and to provide communications with field emergency workers. Communications within the township are quite good.

V. Dose Assessment and Protective Action Recommendations

Not applicable.

VI. Public Alerting and Instruction

At 1955, the township was notified that the sirens would be sounded at 2000 (simulated) and EBS activated (simulated) as well. Lists of hearing-impaired were given to alerting teams at 1910. The teams were sent to notify hearing-impaired residents at 2000 in conjunction with alert and notification system activation. At 2015, a siren failure was simulated in sector A and a route alert crew was dispatched to that sector to perform route alerting.

It should be noted that the fire department, who is responsible for performing route alerting functions, will participate in the response only up to the point that a general emergency is declared. At that point in the exercise, the fire department withdrew from the exercise. The EMC requested assistance from the county at Site Area Emergency. He informed the county that the fire department would withdraw should the emergency escalate to a General Emergency. The county provided the EMC with assistance from a neighboring fire company.

VII. Protective Action

Since the protective actions recommended were for sheltering, the actual manning of traffic and access control points was not demonstrated. However, all emergency workers involved were briefed and on standby if the situation warranted. Discussion on increased volumes of traffic in the area took place between staff members. Equipment and vehicles to keep evacuation routes clear is available within the municipality through the Public Works Officer.

There are eight residents in the township who require evacuation assistance. Each of these individuals was contacted by telephone and ambulances were placed on standby in the event of an evacuation. The special requirements for these residents were in written form and are on file in the EOC. The transportation officer briefed the ambulance personnel on the special requirements of each individual.

The township also has a list of 108 persons who do not have transportation. Calls were placed by the Transportation Officer to each resident to ascertain if they still required transportation. In some cases they did not. The Transportation Officer updated the lists and requested two buses from the county EOC in case an evacuation was necessary. He should be commended for an outstanding performance during this exercise.

## VIII. Radiological Exposure Control

No dosimetry, charging equipment or KI was available at the township EOC. However, two staff members were trained in the use of the equipment and the procedures for taking KI. A list of the township's radiological exposure control equipment needs is maintained in the EOC. The forms necessary for recording dosimeter readings were available. Briefings to emergency workers were simulated. All staff members were aware of when and where to go for decontamination. The EMC stated that once dosimetry and KI are obtained, it would be prepositioned in the township EOC.

## IX. Media Relations

This is not a township responsibility.

## X. Recovery and Reentry

This was not an exercise objective.

## XI. Scenario

The limited play called for in the scenario prevented the township from fully demonstrating evacuation procedures. The scenario for the next full participation exercise should address those areas not covered in this exercise.

### Skippack Township EOC Deficiency/Recommendation

1. The recruitment of a message clerk would relieve the EMC of the duties of logging all messages, updating the status boards and distributing the messages to the proper action officer.

### West Pottsgrove Township EOC, Montgomery County

#### I. Activation and Staffing

The Emergency Management Coordinator was prepositioned at the Township EOC at the beginning of the exercise. Upon receiving notice of an Alert declaration at Limerick from the county EOC via telephone at 1807, the EMC initiated activation of the EOC. Using a written call list contained in his SOP, the EMC contacted the Fire Services, Police, and Transportation Coordinators and the Township Commissioners. A policeman provided controlled access to the EOC. A RACES operator was assigned to the Township, apparently by the county. Full staffing was complete by 1830. Township police radio and the county fire radio net provide a 24-hour per day system for contacting the EMC or his alternate in the event of an emergency at Limerick.

The staff displayed adequate training and knowledge. Round-the-clock staffing capability was demonstrated by presentation of a roster.

## II. Emergency Operations Management

The Township Coordinator, as designated in the plan, was effectively in charge. Periodic briefings were held to update staff on the situation. Copies of the plan and SOPs were available for reference and were consulted by the staff. A message log was kept by the coordinator. Because of the small number of messages, the coordinator was able to keep the log without interfering with his other duties. There is, however, a potential for the EMC to be over-extended if the volume of messages were greater. Message handling was sufficiently efficient.

The EOC was notified of the Alert status at the plant at 1807, of Site Area Emergency at 1906 and of General Emergency at 2020. A take shelter order was received at 1955.

Several township commissioners were present throughout the exercise.

## III. Facilities

The EOC is an adequate facility in terms of furniture, space, lighting, telephones and layout. A backup power generator is available. A status board was kept up-to-date on significant events including the current emergency classification level. Maps showing the plume EPZ, evacuation routes, and traffic and access control points were posted.

## IV. Communications

The communications operation was adequately equipped and had sufficient personnel for 24-hour operations. The primary communications means during the pre-alert stage was the telephone. The post-alert stage primary communications means was the RACES/ARES network. Backup communications was provided through two touch tone lines and telephones. A spare telephone instrument was available. An additional backup capability was through the township fire/police radio. Backup power was available from a 4KW "green box" generator. The RACES radios could also be vehicle mounted and run off the vehicle battery. A permanently mounted outside antenna was not installed, although it was on hand. The RACES radios were using a rubber-duck antenna. The primary communicators appeared to be following the township SOP, but there were occasions when the radio operator had to leave the radio to deliver a message.

## V. Dose Assessment and Protective Action Recommendation

Not applicable.

## VI. Public Alerting and Instruction

The township's role in public alerting and instruction consisted of the simulation of the dispatch of police vehicles to the residences of hearing-impaired individuals to alert them that the sirens and EBS systems had been activated and that they should seek assistance in receiving the emergency information being disseminated. The vehicles were dispatched at 2000 immediately after the sirens were sounded (simulated). A prescribed message was used, appropriate to the situation.

The township was prepared to conduct any route alerting made necessary by siren failure.

The township simulated notification of the alert stages and the need for sheltering to school officials at the appropriate time.

## VII. Protective Action

Since no evacuation was ordered in this exercise, there was no activation of traffic control points. The township was prepared, however, to activate traffic control points if necessary.

A number of mentally retarded individuals reside in an apartment building in the township. Provision for their evacuation constitutes a listed unmet need of the township. During the exercise the township confirmed this need with the county which would provide transportation in the event of an evacuation. The township also had an updated list of other mobility impaired individuals in the township.

## VIII. Radiological Exposure Control

No dosimetry or KI was available to the EOC, nor was its delivery simulated. However, the use of personal dosimetry was simulated and record keeping cards filled out. There was no further activity observed in this area.

## IX. Media Relations

This is a county responsibility.

## X. Recovery and Reentry

This was not an exercise objective.

## XI. Scenario

The scenario generated a very limited need for response by the township. However, it did provide the EOC staff with the opportunity to go through the basic components of the plan.



## West Pottsgrove Township EOC Deficiencies/Recommendations

1. The township should consider establishing a position of communications officer in order to insure the availability of the township emergency management coordinator for his other duties. A communications officer would probably be able to provide a message relay between the RACES operator and the rest of the EOC staff.

## Amity Township EOC, Berks County

### I. Activation and Staffing

The Emergency Management Coordinator indicated that he had received notification of an Alert at the facility from the Berks County EMA at 1808. The EMC arrived at 1812 along with a number of EOC personnel who apparently had been notified by the EMC. The EMC was observed notifying other personnel via telephone. All EOC organizations specified in the local plan were represented, most with a double shift (the deputies) to demonstrate 24-hour staffing capability. The EOC was fully staffed at approximately 1845.

### II. Emergency Operations Management

EOC operations were capably directed by the EMC and supported by a Deputy EMC. Important messages/notifications (e.g., Site Emergency, etc.) were read aloud to all EOC personnel along with instructions on duties to be performed, etc. Plans and SOPs were used continuously. The EOC staff coordinated their operations quite nicely with many questions/problems raised and then resolved. The Transportation Coordinator and other staff even placed phone calls to residents requiring transportation/medical assistance to demonstrate their procedures and confirm the accuracy of their lists. Since the exercise scenario did not test their full operations, the staff freely engaged in a number of "What Ifs" relative to evacuation.

### III. Facilities

The EOC is in the municipal building and is adequate in terms of space, furniture, lighting and noise control. Maps and status/message boards were adequate and well utilized.

### IV. Communications

The primary means of communications for pre-alert stage is the telephone. Post-alert stage primary communications is by RACES/ARES, with backup provided by three touch-tone telephones on separate lines. Additional backup is provided by the VHF/FM county radio, and the police/fire radio net. During the exercise, the primary communicators were located in a separate room and appeared to be using the logs and message forms properly. The RACES/ARES personnel were familiar with the township standard operating procedures (SOPs)



and had a copy readily available. The RACES/ARES equipment used an outside antenna which is permanently installed. They are also in possession of a 4KW "green box" generator for emergency power, and are backed up by vehicle-mounted installations powered by the vehicle's batteries. The communications operation is adequate. There appeared to be sufficient personnel for 24-hour communications operations.

V. Dose Assessment and Protective Action Recommendation

Not applicable.

VI. Public Alerting and Instructions

The exercise scenario simulated siren activation at 2000. An EBS test message was played at 2003. A specific instruction to not perform route alerting was received from the county at 1807. Despite these limitations the EOC staff did discuss the procedures for the full range of public alerting including route alerting. The Fire Services Coordinator, who directs route alerting, expressed concern over the "tracking" of hearing-impaired individuals, i.e., once they initially are alerted through the hand-held cards, how will the teams know where that individual goes or does in case subsequent alerting is required.

Note: the local plan (Draft 4, October 1983) does not contain a route alerting map. This map has been developed and will be forwarded by the township.

VII. Protective Action

The exercise scenario included only "sheltering." The message to shelter livestock and feed with stored feed was received from the county at 1926. During the de-briefing the issue of how the Pennsylvania Department of Agriculture was going to notify local farmers, and instruction contained in the county message, was raised. The township would like to know how this will be accomplished.

When the instruction for general sheltering was received from the county at 1948, the EOC staff discussed the manning of ACPs by the Pennsylvania State Police. They even called the county to determine its status and were informed that this activity was being simulated. The staff actions did demonstrate their knowledge in this area.

VIII. Radiological Exposure Control

The township had on hand 113 742s and 12 chargers; there were no 730s or TLDs. The Radiological Officer was observed properly calibrating and distributing dosimetry along with record keeping cards to both EOC and field staff. The staff all appeared trained in its use and were aware of maximum dose rates, procedures for authorization for

emergency workers to exceed limits and the proper location for monitoring and decontamination. The staff appeared equally knowledgeable in use of KI.

#### IX. Media Relations

The township has a designated PIO who assisted in notification of township residents. His other activities were limited.

#### X. Recovery and Reentry

This was not an exercise objective

#### XI Scenario

The EOC staff commented that the exercise was too limited since evacuation activities were not included. They appeared prepared for much more field activity and expressed a desire for greater involvement in future exercises.

### Union Township EOC, Berks County

#### I. Activation and Staffing

The call initiating activation of the EOC was received from Berks County EOC at 1810. A written call list was available. The EMC called the EOC since she had not received notification; she arrived at the EOC at 1840. This completed the available staffing, the additional staff were present prior to alert time. Those present included: Chairman Union Township Board of Supervisors, Union Township EMC, Fire-Police Services Officer, Radiological Officer, Public Works Officer, Communications Officer, and two RACES operators. The township does not have police services, the fire services officer performs these duties. No shift change or 24-hour staffing capability was demonstrated. The township is seeking qualified personnel to accomplish this capability. The staff were competent and knowledgeable, they coordinated effectively.

#### II. Emergency Operations Management

The EMC was effectively in charge of operations, she consulted with staff throughout the operation. The township RERP was effectively utilized, messages were logged, and reproduced when necessary. The EOC was notified of Alert status at 1810, Site Area Emergency at 1905, General Emergency at 2032, take shelter at 1955. Required actions were initiated according to RER plan. The Berks County EOC was contacted when necessary. Access to the EOC was controlled.

Telephone and radio messages should be separately identified for ready reference, and follow up actions.

### III. Facilities

The facility provided adequate space, furnishings, lighting and telephones. Back up power was available. A status board was available, visible and up to date, with emergency classification levels posted. The plume EPZ maps were posted, maps of evacuation routes, relocation centers, access control points, radiological monitoring points, and population by evacuation area were available but not posted.

### IV. Communications

The primary means of pre-alert stage communications is the telephone. For post-alert stage, the RACES/ARES network is the primary means of communications, backed up by four telephone lines; two touch-tone and two rotary dial. The communications operation was adequate, but somewhat hampered due to the recent move of the EOC from the Kulpstown Firehouse to the Union Township Municipal Building. The situation should improve over the next several months when additional radio equipment is scheduled to be installed. The additional equipment is presently on hand and consists of an FM/VHF radio, and an outdoor tower. The external RACES antenna is on hand and will be permanently mounted to the tower when it is erected. The primary communicators were located in a separate room and appeared to be using message forms properly. There appeared to be adequate personnel for 24-hour communications operations. They had a copy of their SOP and were following it. They had a 4KW "green box" generator for backup power, and also had vehicle installation kits in their vehicles (which run off the vehicle's battery) as additional backup.

### V. Dose Assessment and Protective Action Recommendation

Not applicable.

### VI. Public Alerting and Instruction

At 1955 the county notified the township that the sirens would sound at 2000 (simulated) and EBS would be activated. The EBS station was monitored over WEEU, WHUM, the local EBS station could not be received. No messages were aired over WEEU. Calls were simulated to the fire company to initiate route alerting, schools, factories, and township workers.

### VII. Protective Actions

A list of persons with special needs was available at the EOC. A written plan covers schools within the township. Calls were made to the Pennsylvania State Police to man traffic and access control points.

## VIII. Radiological Exposure Control

High range dosimetry equipment was delivered prior to the exercise. The low and mid range dosimeters, batteries, film badges or TLDs and KI were not delivered. The batteries arrived at 1935. The Radiological Officer simulated using the equipment; however, the equipment was not functional.

### IX. Media Relations

This is not a township responsibility.

### X. Recovery and Reentry

This was not an exercise objective.

### XI. Scenario

The scenario was sufficient to provide activity relating to the RER Plan.

## Union Township EOC Deficiencies

1. Union Township has no capability for 24-hour staffing. The township should continue to seek personnel to accomplish this capability.
2. Messages received should be identified as to source, i.e., phone, RACES, two-way radio. They should be numbered individually and kept separate, to provide ready reference and follow up. A check off list should also be provided.

## South Coventry Township EOC, Chester County

This municipality did not participate in the initial full scale exercise on July 25, 1984 or in the supplemental exercise on November 20, 1984.

## South Coventry Township EOC Deficiency

1. Since South Coventry Township did not participate in either the initial or supplemental exercise, FEMA Region III is unable to state that emergency preparedness is adequate to provide reasonable assurance that appropriate protective measures can be taken to protect the health and safety of Township residents in the event of a radiological emergency at the Limerick Generating Station.



## Warwick Township EOC, Chester County

### I. Activation and Staffing

The township EMC received the initial call from Chester County at 1823. The EMC verified the call at 1840 and notified the township board of supervisors by phone. The EOC staff mobilization was effected from a written call list and staffing was completed by 1850.

In addition to the EMC two of the three township supervisors, the cooperating neighboring volunteer fire company, transportation and ARES were represented at the EOC.

The EMC exhibited a sound background and knowledge of his duties and exercised the staff well in this situation.

This EOC does not, at this time have the capability to operate for extended periods, neither in personnel nor in facilities. However, the township does have plans for the expansion of the facility which would enable the EOC to operate for extended periods of time. The township supervisors are trying to recruit additional personnel.

### II. Emergency Operations Management

The township EMC, as designated in the plan, was effectively in charge of the emergency operations. He briefed the staff and referred to the implementing procedures as required. Message handling was good. A message log was maintained and reflected Alert status received at 1823, Site Area Emergency status received at 1905, Shelter animals message received at 1935, general take shelter action order received at 1954, General Emergency status received at 2022.

### III. Facilities

The township EOC is located in Warwick Township Building which, at this time, is a garage. The EOC has sufficient space, but inadequate furniture. It has good lighting and it appeared to have adequate phone service, two incoming and one dedicated to outgoing only. Backup power is said to be available, however it was not demonstrated during the exercise. The maps appeared to be adequate and the status board was visible, legible and kept up-to-date.

### IV. Communications

Three commercial telephone lines were available and working. The EOC has its own radio communications tie with the county EOC. ARES supplied a communications backup for this exercise. The fire company does have a frequency available for backup but it was not demonstrated during this exercise. The communications officer exhibited dedication and sound understanding of procedures.



V. Dose Assessment and Protective Action Recommendation

Not applicable.

VI. Public Alerting and Instruction

Route alerting was demonstrated. A route alert team was dispatched at approximately 1910 hours and about 50 minutes were required to complete (simulated).

VII. Protective Action

EMC advised that the township does not order the traffic control points to be manned, but are responsible only for the verification that they are manned. This verification process was simulated during the exercise.

The list of names and addresses of impaired individuals in the township did not appear to be complete--only four names. Township officials expressed their concerns about their inability to develop a comprehensive list of the impaired citizens of the township. They have tried a number of ways to obtain the needed information; however, they get little cooperation from the community.

VIII. Radiological Exposure Control

This activity was not exercised. Discussions with EMC and staff indicated that there is an understanding of dosimetry equipment; however, the township has no such equipment.

Decontamination procedures were not exercised at this time; however, discussion with EMC and fire chief indicates procedures are in place and have been exercised in the past.

IX. Media Relations

This is not a township responsibility.

X. Recovery and Reentry

This was not an exercise objective.

XI. Scenario

Due to the limited play generated by this scenario, many of the responsibilities of the township were not demonstrated. Future exercises should include a demonstration of these responsibilities.

Warwick Township EOC Deficiencies/Recommendations

1. List of impaired citizens of the township did not appear to be complete. Township officials are concerned about this and should explore alternative methods to enhancing the list.

2. Substantial improvement is required in facilities and comfort. The EOC should be provided with the equipment necessary to respond to an emergency.
3. Additional personnel are needed to man the second shift should extended operations become necessary.

#### Support County of Bucks

The Bucks County EOC is located in the County Administrative Building and was activated immediately after receipt of a telephone call from the State. The office was staffed with County government and RACES personnel. Twenty-four hour emergency contact is maintained through the County Emergency Services Communications Net.

The Bucks County Emergency Services Coordinator was effectively in charge of the operations in accordance with the plan.

Communications, with redundancies to the primary system were effectively maintained with the State, Eastern Headquarters (State), adjacent counties (risk), reception centers, mass care centers and Red Cross Chapter. RACES supported the entire operation.

Messages regarding changes in status were received in a timely manner and the EOC responded in accordance with the plan.

#### Reception Center

The reception center activity was conducted at the Nottingham Fire Station in lieu of the Neshaminy Mall location. The activity was fully manned so no activation activities were observed. The person in charge of the center was knowledgeable of the plan and would be able to function well in an actual emergency. RACES provided communications with the County EOC and mass care center(s). Strip maps to mass care centers were available.

#### Mass Care Center

The center was activated as a table top exercise and a mass care center planning session was held as school was in session at the Neshaminy/Langhorne High School complex.

There is ample room for 1200 evacuees and a system for separately monitoring and decontamination prior to registration. The center is located over ten miles from the EPZ. There is a plan to open additional centers as each center approaches capacity. There is sufficient space and equipment to start the operation. Food is on hand and additional food could be obtained. Communications were maintained with the EOC and reception centers. RACES and Red Cross supported the operation.



Monitoring and Decontamination

Correct procedures were observed for monitoring and decontamination of evacuees. Center personnel indicated that automobiles would be checked but there was no written plan for this procedure.

Support County of Bucks Deficiency/Recommendation

1. Procedures should be included in the plan for monitoring and decontamination of vehicles.

## SUMMARY LIST OF DEFICIENCIES/RECOMMENDATIONS

This report has referenced two types of deficiencies: Category "A" and Category "B". It is important to differentiate between the two.

A Category "A" deficiency is of the type that would cause a finding that offsite emergency preparedness was not adequate to provide reasonable assurance that appropriate protective measures can be taken to protect the health and safety of the public living in the vicinity of the Limerick Generating Station in the event of a radiological emergency.

Category "B" deficiencies include those where demonstrated (and observed) performance during the exercise was considered faulty, corrective actions are considered necessary, but other factors indicate that reasonable assurance could be given that, in the event of an actual radiological emergency, appropriate measures can be taken to protect the health and safety of the public.

Also included under Category "B" deficiencies are Category "B" Recommendations. Category "B" Recommendations are those areas where performance was considered adequate but where a correctable weakness was noted. Correction of the weakness would enhance the ability of the organization to perform their adequately demonstrated response capability.

SUMMARY OF CATEGORY "A" DEFICIENCY

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>South Coventry Township EOC</u>				
<p>1. Since South Coventry Township did not participate in either the initial or supplemental exercise, FEMA Region III is unable to state that emergency preparedness is adequate to provide reasonable assurance that appropriate measures can be taken to protect the health and safety of Township residents in the event of a radiological emergency at the Limerick Generating Station.</p>	J.9.			



SUMMARY OF CATEGORY "B" DEFICIENCIES

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Douglass Township EOC</u>				
1. Dosimetry and KI are not available for this exercise. The capability of the township emergency personnel to implement effective radiological exposure control was not demonstrated. Additional training in this area is needed.	0.4.			
<u>Lower Providence Township EOC</u>				
2. Message handling was haphazard. An organized system, such as was discussed by the staff during the exercise should be implemented.	E.2.			
<u>Lower Salford Township EOC</u>				
3. Training should be provided to appropriate EOC staff and emergency workers in the proper use and handling of dosimetry equipment and KI,	0.4. J.10.e.			

SUMMARY OF CATEGORY "B" DEFICIENCIES

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
and with regard to emergency classification levels. Distribution of this equipment should be demonstrated in the next exercise.				
4. A listing of available public works equipment resources should be developed and maintained by the township.	A.3. A.4.			
5. The County sent a message out over RACES at 1955, advising them that the sirens would be activated at 2000. However, this message did not get to the EMC at Lower Salford Township until 2013. The EOC was notified at 2003 that the sirens and EBS would be activated at 2000. The RACES operator should pass critical messages to the EMC immediately. The EMC should clarify this with the RACES operator. In addition, the County should insure that all municipalities are notified prior to activation of the alert and notification systems.	E.6.			

SUMMARY OF CATEGORY "B" DEFICIENCIES

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Schwenksville Borough EOC</u>				
6. The plan should include a checklist (guidelines) for actions to be taken at each emergency classification level.	D.4.			
7. The County notified Schwenksville Borough EOC of activation of the siren system at 2003, after the system had already been activated. Sufficient time should be allotted so that the County can alert all municipalities before the alert and notification system is activated.	E.6.			
<u>Union Township EOC</u>				
8. Union Township has no capability for 24-hour staffing. The township should continue to seek personnel to accomplish this capability.	A.4.			
9. Messages received should be identified as to source (phone, RACES,	E.2.			

SUMMARY OF CATEGORY "B" DEFICIENCIES

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
two-way radio). They should be numbered individually and kept separate to provide a ready reference and follow-up. A check-off list should also be available.				
<u>Warwick Township EOC</u>				
10. Lists of impaired citizens requiring special assistance did not appear to be complete. Township officials are concerned and should explore alternative methods to enhance the lists.	J.10.d.			
11. Substantial improvement is required for the EOC facility. The EOC should be provided with equipment necessary to respond to an emergency.	H.3.			
12. Additional personnel are needed to man the second shift should extended operations become necessary.	A.4.			

SUMMARY OF CATEGORY "B" DEFICIENCIES

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Support County of Bucks</u>				
13. Procedures should be incorporated into the plan for monitoring and decontamination of vehicles.	J.12.			



SUMMARY OF CATEGORY "B" RECOMMENDATIONS

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Douglass Township EOC</u>				
1. The township EOC is presently under construction. This facility should be completed as quickly as possible, the necessary furnishings and communications equipment should be installed, and appropriate maps posted.	H.3.			
<u>Lower Providence Township EOC</u>				
2. At times the noise level in the EOC made it difficult to be heard. Consideration should be given to locating other functions, such as RACES, outside the main operations room.	H.			
3. An attempt should be made to schedule a more involved exercise in 1986.	N.			

SUMMARY OF CATEGORY "B" RECOMMENDATIONS

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Lower Salford Township EOC</u>				
4. The township should complete existing plans for the installation of a third commercial telephone line and permanent installation of the RACES antenna.	F.1.			
5. Future exercises should demonstrate route alerting activities.	E.6.			
6. The Borough EOC staff is concerned about the evacuation of their own families. The borough should discuss the matter of evacuation of emergency workers' dependents with the County Emergency Management Coordinator.	J.10.g.			
<u>Skippack Township EOC</u>				
7. The township should consider establishing a position of	A.4.			

SUMMARY OF CATEGORY "B" RECOMMENDATIONS

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
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Communications Officer in order to insure the availability of the township emergency management Coordinator for his other duties. A Communications Officer would probably be able to provide a message relay between the RACES Operator and the rest of the EOC staff.

West Pottsgrove Township EOC

8. The township should consider establishing a position of Communications Officer in order to insure the availability of the township emergency management coordinator for his other duties. A Communications Officer would probably be able to provide a message relay between the RACES Operator and the rest of the EOC staff.

A.4.