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April 1, 1994

U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Document Control Desk

Subject: LaSalle County Station Units 1 and 2
Response to Notice of Violation
Inspection Report Nos. 50-373/93035; 50-374/93035
NRC Docket Numbers 50-373 and 50-374.

References:

1. E. G. Greenman letter to W. P. Murphy,
Dated February 3, 1994, Transmitting
NRC Inspection Report 50-373/93035; 50-374/93035.
2. J. B. Martin letter to M. J. Wallace,
Dated October 25, 1993, Transmitting
NRC Inspection Report 50-373/93026; 50-374/93026.

Enclosed is Commonwealth Edison Company's response to the Notice of Violation (NOV) which was transmitted in the letter referenced in 1 above. The violation regarded maintenance procedures which did not provide instructions sufficient to ensure correct tightening of Safety Relief Valve (SRV) spindle nuts. This procedural deficiency resulted in improper operation of SRV "E" on Unit 1 during the September 14, 1993 loss of Station Auxiliary Transformer event. The failure was discussed in your report referenced in 2 above. Our response to this NOV is contained in Attachment A.

You also requested that we describe our plans to address the root cause of deficiencies identified in Reference 2 and other weaknesses identified in Reference 1. This information is provided in Attachment B. We have included information in the areas of communication of management expectations, issues management including root cause analysis and commitment management, engineering approaches to potential problems described in NRC generic communications, and maintenance program improvements.

I would like to discuss several initiatives which have been undertaken since the Inspection Report was issued.

Because of a number of equipment problems in the plant, we elected to keep Unit 1 shutdown following a forced outage on February 18, 1994. Unit 1 was originally scheduled to start a refueling outage on March 18, 1994. The additional outage time was spent repairing and upgrading equipment that was not in the original refuel outage scope.

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We have had problems in several areas of performance in the past. I believe that our personnel have a good awareness of our performance picture, and I believe that there is certainly a broad dissatisfaction with our recent performance. We are utilizing what we have learned from our self assessments, INPO evaluations and NRC inspections to build our plan for improvement. Our plans, coupled with our strong desire for improved performance, will result in the changes necessary to move LaSalle to a much higher level of performance.

Our Station Manager has been assigned ownership of the Integrated Reporting Program for problem identification and resolution. This will now be a line management function with the appropriate assignment of responsibilities, accountabilities, and levels of management involvement. He personally is responsible for reviewing each worker identified problem and ensuring that appropriate personnel are assigned to address it. His direct involvement in this process sends a clear message to all the workers that we are interested in their input and are willing to dedicate resources to solve our problems. It is obvious to me that the workers are receiving this message as we have seen a marked increase in the number and quality of worker identified concerns in the last few months.

Senior management at LaSalle is continually increasing its direct involvement in work activities in the plant. The intent of this is to communicate expectations to workers, emphasize ALARA principles, such that ALARA becomes second nature to them instead of a barrier to getting the job done, and provide feedback to the workers on the performance of their jobs.

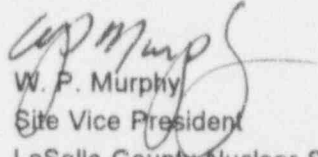
On March 10, 1994, LaSalle began an initiative which has resulted in reinforcing the purpose and focus of the Corrective Action Team (CAT) by requiring that members of the LaSalle senior management team (Managers, Superintendents and Department Heads) participate in various in-plant activities. This on-shift participation is intended to be an oversight (non-supervisory) capacity, designed to increase senior management's understanding of barriers which prevent our workers from achieving the results we desire. The senior management on-shift element of the CAT will also provide an opportunity for the mutual understanding of expectations, elevation of performance standards, and a building of teamwork between our senior managers and the rest of the station.

The emphasis on increased management visibility and involvement in the workplace will yield lasting dividends in the form of enhanced communication of heightened standards of performance. For LaSalle Station to really move ahead, we clearly understand that we need greater management involvement in station activities at all levels. We must employ sound leadership and management skills. This includes accepting only the highest standards, establishing and setting expectations, improving teamwork, and making good business decisions.

I assure you of our commitment to significant performance improvement at LaSalle Station. We believe we are already taking strides to achieve this. We understand that it does not happen overnight and that it takes more than just an action plan to achieve our goal. It is the communication, implementation, ongoing assessment and execution of that action plan that will be the key to success. We will implement our action plans to produce steady and lasting improvement.

If there are any questions or comments concerning this letter, please refer them to me at (815) 357-6761, extension 3600.

Respectfully,


W. P. Murphy
Site Vice President
LaSalle County Nuclear Station

cc: J. B. Martin, Regional Administrator, RIII
A. T. Gody Jr., Project Manager, NRR
D. Hills, Senior Resident Inspector, LaSalle
D. L. Farrar, Nuclear Regulatory Services Manager, NORS
J. E. Lockwood, Regulatory Assurance Supervisor, LaSalle
Station File

ATTACHMENT A
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT
50-373/93035; 50-374/93035

VIOLATION: 373(374)/93035-01

During an NRC inspection conducted on November 25, 1993 through January 10, 1994, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, the violation is listed below:

10 CFR 50, Appendix B, Criterion V requires, in part, that activities affecting quality shall be prescribed by documented procedures of a type appropriate to the circumstances.

Contrary to the above, LaSalle Mechanical Procedure (LMP)-MS-06, "Installation of Main Steam Safety Relief Valves (SRV)" and LaSalle Electrical Procedure (LEP)-MS-101, "SRV Lift Indicating Switch Assembly Removal" (utilized for replacement of Unit 1 SRV "E" on January 29, 1993 and Unit 2 SRV "L" on April 11, 1992) were inappropriate to the circumstances in that they did not provide instructions sufficient to ensure correct tightening of SRV spindle nuts.

This is a Severity Level IV violation (Supplement 1).

ATTACHMENT A (Continued)
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT
50-373/93035; 50-374/93035

REASON FOR VIOLATION:

We agree that LaSalle Mechanical Procedure (LMP)-MS-06, "Installation of Main Steam Safety Relief Valves (SRV)", and LaSalle Electrical Procedure (LEP)-MS-101, "SRV Lift Indicating Switch Assembly Removal", were not adequate to ensure proper SRV spindle nut installation. The procedure should have provided a method to verify that the spindle nut was properly installed. The inadequate procedures resulted in Unit 1 SRV "E" not completely opening during the September 14, 1993 Unit 1 Loss of Station Auxiliary Transformer event. This problem was identified during investigation of the SRV for a potential position indication problem. Additionally, testing of the Unit 2 SRV's during the Unit 2 1993 refuel outage identified that a similar problem existed on SRV "L".

The procedures did not contain extensive details on the proper installation of the spindle nuts. The instructions were that the spindle nut should be installed by rotating the spindle nut assembly down until it bottoms out. The vendor manual for the SRV's contained more explicit details for spindle nut installation. When the procedure was developed and approved, we believed that the information contained within the procedure was adequate to ensure proper spindle nut installation. Consequently, the vendor manual information was not included in the procedure. The procedural inadequacy created the potential for positioning the spindle nut short of the fully bottomed position. This condition cannot be easily identified by visual examination because of the valve design and no further method for verifying proper spindle nut installation was required by our procedures.

The root cause of the failure of these SRV's was determined through extensive testing which was developed by LaSalle engineering personnel. This was the first time this test methodology was utilized, which explains why the problem had not been identified previously.

CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED:

Upon identification of the root cause of the SRV "E" failure on Unit 1, personnel adjusted the spindle nut. SRV "E" was then retested and verified to be operating properly. The same testing was performed on all the Unit 1 and Unit 2 SRV's in an effort to identify any other spindle nuts that were not installed properly. This testing revealed that Unit 2 SRV's "L" and "G" did not have proper spindle nut installation. SRV "L" had been replaced on April 11, 1992. SRV "G" was replaced on December 16, 1993 subsequent to the loss of offsite power event.

The SRV "G" deficiency was a result of a decision to not immediately revise procedures following identification of the root cause of the SRV failures. This decision was made because the Unit 2 SRV work packages were already in the field for work during the ongoing refuel outage. We relied on post-maintenance testing to verify proper spindle nut installation. We agree with the inspector's conclusion

ATTACHMENT A (Continued)
RESPONSE TO NOTICE OF VIOLATION
NRC INSPECTION REPORT
50-373/93035; 50-374/93035

that this method of control was weak. We have counselled personnel involved in the decision about this issue. The spindle nuts for SRV's "L" and "G" were adjusted and the SRV's were retested and verified to be operating properly.

CORRECTIVE ACTIONS TO BE TAKEN TO AVOID FURTHER VIOLATIONS:

1. LEP-MS-101 and LMP-MS-06 have been revised. The revisions include verification that the spindle nut is bottomed out against the load plate by attempting to pivot the load plate by hand, and a QC Hold Point for verification of proper spindle nut installation.
2. The testing that identified the root cause of the SRV failures was performed as a special test. This test is being formalized into a permanent plant procedure, LaSalle Technical Surveillance (LTS)-600-6, for use on Unit 1 and 2 SRV's and will be included in SRV post-maintenance testing requirements. This procedure will be completed by May 1, 1994 and will be utilized during the current Unit 1 refuel outage for SRV testing.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:

Full compliance was achieved on March 30, 1994 when LEP-MS-101 and LMP-MS-06 were revised with an enhanced method of SRV spindle nut installation.

ATTACHMENT B
PROGRAMMATIC IMPROVEMENTS AT LASALLE

A. INTRODUCTION:

The February 3, 1994 NRC Inspection Report requested that LaSalle discuss plans to address the root causes of deficiencies identified in the Reference 1 and 2 inspection reports. Specifically, we are addressing deficiencies in the areas of Communication of Management Expectations, Issues Management including root cause analysis and commitment management, Engineering Approach to NRC Generic Communications, and Equipment Materiel Condition Improvements. We are also providing a summary of the status of recommendations that were made by a special maintenance investigation team which was formed in response to the concerns identified in the Reference 2 report.

In the past six months, we have taken a comprehensive look at our performance. We commissioned a LaSalle Business Development Team (LBDT) to review performance in all areas of plant operation and maintenance. The results of this review painted a clear picture of deficient areas that needed to be addressed and led to the LaSalle Business Unit Plan (BUP). The BUP communicates the results of the assessment and identifies the actions necessary to improve performance. The BUP is a living document and may change as the goals of the station change.

The BUP is very detailed, as we have identified a large number of actions which we will be taking to improve overall performance of LaSalle Station. Consequently, LaSalle is developing a Management Summary of the BUP. The purpose of this summary is to highlight key areas being addressed by the BUP. It will allow us to continue addressing the details of the BUP, while maintaining focus on our key problem areas. We expect to complete the summary by April 15, 1994. Some of the information contained in the summary addresses deficiencies identified in the Reference 1 and 2 inspection reports and has been included in the sections below.

B. COMMUNICATION OF MANAGEMENT EXPECTATIONS:

One of the bigger challenges we face is the effective communication of our expectations to each of our workers. By and large our workers are dependable, conscientious and take pride in what they do. We believe that one of our greatest strengths is our people.

Consequently, we are focusing much of our efforts on communicating our expectations to the workers. We have not done an adequate job of this in the past. Communication of expectations must begin at the top and be reinforced at all levels of the chain of command. These communications are designed, in part, to clearly state management expectations of the site organization in matters of safety, efficiency, and business priorities. The increased emphasis on communication is evident in a number of ways.

1. Executive company personnel have recently visited LaSalle Station and addressed the plant staff on their expectations of the performance of LaSalle Station.

2. The Site Vice President is communicating station goals and providing periodic updates on progress toward reaching these goals.
3. The Site Vice President holds weekly staff meetings with his direct reports and those of the Station Manager, to establish station policy, communicate on key issues effecting the plant and to ensure that the key management team is aligned and current on all key issues.
4. The Site Vice President routinely answers questions from the station staff in a column in the station's daily newsletter.
5. The Site Vice President and Station Manager have an "Open Door Policy" at a set time each week for direct communication with personnel.
6. The Site Vice President, Station Manager, and Site Engineering and Construction Manager hold weekly meetings with all Department Heads to discuss leadership topics of importance to our organization.
7. The Station Manager meets every morning with Department Heads to review plant status and major activities, emphasize emergent issues, and discuss appropriate scope for issues identified.
8. The Station Manager has been assigned ownership of the Integrated Reporting Program for problem identification and resolution. This is now a line management function with appropriate assignment of responsibilities, accountabilities, and levels of management involvement. Increased emphasis is placed on addressing the entire scope of each issue.
9. The Station Manager has become a part of the review process for Personnel Contamination Events (PCE) which result from poor radworker practices. He will personally meet with the worker involved in the PCE, his supervisor, and Radiation Protection personnel to discuss the event.
10. Senior management at the station is getting directly involved in work activities in the plant. The intent of this is to communicate expectations to workers, emphasize ALARA principles, such that ALARA becomes second nature to them instead of a perceived barrier to getting the job done, and provide feedback to the workers on the performance of their jobs.
11. Senior management at the station is attending the weekly communication meetings for all station personnel. The intent of this is to emphasize the need for open communication at all levels of the organization, to communicate current plant status, update workers on progress toward reaching station goals, and provide a status of action plans for improvement initiatives.
12. Meetings have been held by senior station management with first line supervisors to set expectations for industrial safety, plant materiel conditions, and other topics.

ATTACHMENT B (Continued)
PROGRAMMATIC IMPROVEMENTS AT LASALLE

13. Pre-outage meetings were held with station personnel to discuss outage work and goals. Emphasis was placed on industrial and nuclear safety, quality performance, and adherence to radiological requirements.

C. ISSUES MANAGEMENT (ROOT CAUSE ANALYSIS AND COMMITMENT MANAGEMENT):

One of our major focus areas, in the near term, is Problem Identification and Resolution, which is a component of the BUP Issues Management Strategy. Historically, we consider our performance in this area to be the source of many of our problems. Senior management involvement in this process was far less than sufficient and assignment of resources to solve recurring materiel condition problems was not given adequate attention. To address this, the LaSalle Station Manager has been assigned ownership of the Integrated Reporting Program for problem identification and resolution. This is now a line management function with the appropriate assignment of responsibilities, accountabilities, and levels of management involvement. He personally is responsible for reviewing, with key line managers, each worker identified problem and ensuring that appropriate personnel are assigned to address it. His direct involvement in this process sends a clear message to all the workers that we are interested in their input and are willing to dedicate resources to solve our problems.

The LaSalle Business Development Team (LBBDT) reviewed On-Site Quality Verification (SQV) documentation, Nuclear Regulatory Commission (NRC) inspection reports, plant tour observation data and conducted numerous interviews in order to assess the effectiveness of corrective actions. The LBBDT concluded that LaSalle's corrective action program appeared to be ineffective in ensuring that previously identified deficiencies remained corrected. The team stated that while specific deficiencies were corrected, the results were short term and deficiencies reoccurred within a year or two. This indicated that LaSalle was taking a narrow view when approaching the solution to problems.

Action plans and initiatives, designed to address the inadequacies in LaSalle's Root Cause and Commitment Management programs, were distributed as Revision 0 to the LaSalle Business Unit Plan (BUP) on Friday, March 11, 1994. The action plan is structured to address the following areas: 1) Problem Identification, 2) Problem Investigation, 3) Problem Resolution and 4) Effectiveness Review.

1. PROBLEM IDENTIFICATION

To ensure a proper threshold exists with regard to problem identification, the expectations and guidance for using the Integrated Reporting Program (IRP) must be simple, clear, concise and available for use by all personnel on site. A Problem Identification Form (PIF) threshold guidance document is being improved through efforts with Byron Station. This guidance will allow station personnel to differentiate between PIFs and other existing site reporting methods. This guidance document is expected to be completed by June 1, 1994.

ATTACHMENT B (Continued)
PROGRAMMATIC IMPROVEMENTS AT LASALLE

LaSalle senior station management personnel have met with our bargaining unit officials to facilitate their understanding, acceptance, and support of our IRP process. The meetings were held in early January with the Union Local President and Chief Steward. Both representatives confirmed their support for the use of PIFs to document problems.

Initial PIF training has been given to site personnel through the General Information Notice (GIN) process. Additional training will be conducted after the June improvements and will include how to fill out the form, its timeliness, location, general threshold, feedback to be provided, reason for feedback letters, benefits, philosophy, success stories, first line supervisor roles and expectations and problem ownership. This action is expected to be completed by August 1, 1994. Promotion of IRP/PIF is an ongoing process.

2. PROBLEM INVESTIGATION

For IRP to be successful at reducing the number of human performance problems, and improving the level of materiel condition at LaSalle, root cause investigations must be performed effectively in order to prevent problems from recurring. Those steps of the action plan which are designed to improve problem investigation effectiveness, are centered on providing structure, focus and depth to the IRP process.

A review of the IRP forms is being conducted to eliminate duplication and to provide administrative simplicity, and to improve understanding. Station management is in the process of developing clear guidance regarding the conduct of Event Screening Meetings by the Line Organization. This guidance will address the use of the Lesson Learned Initial Notification Program (LLIN) for rapid dissemination of pertinent events to other CECOs sites, the improvement of the Significance Level Matrix for use at the Event Screening Meeting, the need for independent investigation for more significant events, and the desire to assign at least one root cause trained person for each level 3, 2, or 1 PIF. These actions are expected to be completed by May 1, 1994.

To assure consistency of product, station management is in the process of establishing clear requirements regarding the required output for level 1, 2, and 3 PIF events. Our personnel are evaluating the use of root cause worksheets, including the use of Licensee Event Report (LER) format, defining and providing templates, events search by site, company and industry experience reports, and guidance for applicability of applying corrective actions to other units, trains, systems, or subsystems of components. This guidance will be provided to the line organization by May 1, 1994.

ATTACHMENT B (Continued)
PROGRAMMATIC IMPROVEMENTS AT LASALLE

Personnel of sufficient number, properly trained in the conduct of Root Cause Analysis, will be a vital resource to be used to improve LaSalle's corrective action performance. A dedicated root cause staff was created during the first quarter of 1994 to facilitate the problem investigation function. This staff has a group leader, who reports to the Systems Engineering Supervisor, and currently has three root cause experts (plans are to increase the total staff size to six before the end of the third quarter of 1994). Recognizing the need to expedite the establishment of this group, two contractors were hired and are filling these positions until permanent employees are available. This group has been functioning as an "owner of the root cause process" and has been providing technical guidance through consultation for those members of the line organization who have been charged with carrying out various root cause investigations. The use of the root cause group in this manner provides consistency and a high level of quality in the analysis while allowing the line organization to maintain ownership of the corrective actions.

3. PROBLEM RESOLUTION

Once problem investigation has identified the true root cause, corrective actions will be determined and an implementation plan developed. Corrective actions will be designed to prevent problem recurrence. The corrective actions and implementation plan will be evaluated by station management for completeness. Necessary resources will be provided to carry out the corrective actions.

Station management has been aggressively pursuing reducing the backlog of overdue Nuclear Tracking System (NTS) items and is holding personnel accountable for meeting all due dates. The commitment backlog is being reviewed and prioritized, in a systematic way, to ensure resources are applied in the most efficient and effective manner.

4. EFFECTIVENESS REVIEWS

a. Effectiveness of Corrective Action Program

The long-term evaluation of the effectiveness of the corrective action program will be developed as part of LaSalle's Self Assessment Program. For 1994, the effectiveness of these changes to the corrective action program will be evaluated by the use of a multidisciplinary team, comprised of representatives from Regulatory Assurance, the line organization, SQV Department, as well as personnel from other CECOs Sites. This effectiveness review will focus on problem identification (establishing proper thresholds for reporting under IRP), problem investigation (using root cause methods), and problem resolution (including timeliness of corrective action implementation). This effectiveness review is expected to be completed by February 1, 1995.

ATTACHMENT B (Continued)
PROGRAMMATIC IMPROVEMENTS AT LASALLE

b. Site Quality Verification Organization

Commonwealth Edison Company has recently undergone a restructuring of the Nuclear Oversight Department. The Nuclear Oversight organization provides an independent assessment function by reviewing activities that affect the safe operation of the nuclear stations. A strong and effective independent assessment function, supported by all personnel self-checking their work before, during, and after execution are prerequisites for LaSalle to reach higher levels of performance. The changes to the Nuclear Oversight Organization include:

- 1) Increasing the range of nuclear oversight capabilities at LaSalle through relocation of talent and experience to the Site Quality Verification (SQV) organization. This includes addition of certified Senior Reactor Operator personnel, and the addition of an individual with five years of INPO experience.
- 2) The performance monitoring function has been merged into the SQV organization to provide an integrated and focused independent review of site performance.
- 3) Communication between LaSalle's line organization and SQV has been improved through the assignment of a SQV Director to the site. This individual is responsible for the performance of the quality verification program at the station. The SQV Director will have a substantial role in assisting the Site Vice President in building a self critical culture, by conducting independent, in-depth reviews of areas the Site Vice President believes require improvement, and by modeling and encouraging behavior that emphasizes quality.

c. Self Assessment Director

The Self Assessment Director position has been created to assist in addressing issues identified in the BUP. This individual will report directly to the Site Vice President. The primary purpose of this position is to assist LaSalle in implementing an effective self assessment process. The goal is that LaSalle will be able to sustain an effective self assessment culture in 12 to 18 months and the responsibilities of this position will be assumed by line management.

ATTACHMENT B (Continued)
PROGRAMMATIC IMPROVEMENTS AT LASALLE

Specifically, the Self Assessment Director will:

- 1) implement a monthly Integrated Quality Effort (IQE) process using Zion's current methodology as a starting point;
- 2) implement a bi-monthly or quarterly analysis process based on Braidwood's Quality Partner Review and/or Byron's Excellence Review Team (BERT) process. This process will summarize the collective analysis of all company groups or individuals who monitor LaSalle's performance;
- 3) serve as a central point of contact on the Enterprise Information System (EIS) IQE process;
- 4) provide assistance to department heads on conducting effective self assessment; and
- 5) assist in making the cultural changes needed in order to sustain an effective self assessment culture.

D. NARROW ENGINEERING APPROACH TO GENERIC NRC COMMUNICATIONS:

LaSalle agrees that the response to NRC Bulletin 93-02 was incomplete and narrowly focused. The concern for incomplete or short cited corrections to equipment deficiencies was also noted when LaSalle originally addressed a 10 CFR Part 21 issue for ITE Breaker grease hardening.

The issue of narrow approach on engineering issues is similar to the Issues Management problem previously discussed. In the LBDT review of LaSalle's corrective actions, it was noted that problems addressed in the past seemed to recur due to solutions which did not fully address root cause or programmatic changes. The issue of narrow approach to Generic NRC communications is likewise related to reviewing issues for root cause and generic application which will ensure that the central issues of NRC communications beyond the stated examples are addressed.

ATTACHMENT B (Continued)
PROGRAMMATIC IMPROVEMENTS AT LASALLE

These examples demonstrate the need for additional guidance and training to Engineering personnel to review Information Bulletins and Notifications with a questioning attitude for 1) identifying the central issue, 2) providing corrective actions that ensure that both short term and long term requirements are met, and 3) determining whether the central issue is applicable to equipment or systems beyond the original scope.

Training will be provided to reenforce this questioning attitude for Engineering Issues. The training will include the examples above where the corrective action was insufficient due to the central issue not being adequately addressed. A training package has been prepared for distribution to all LaSalle Engineering personnel. This training will be conducted via General Information Notice (GIN) # 94-25. This training will be completed by June 30, 1994.

Long term corrective action will be provided by reviewing LaSalle's program for Engineering Review of NRC and Industry notifications to ensure that the central issue is identified and corrective actions adequately cover the broad issues. Procedure and programmatic changes will be made to reenforce the need for this questioning attitude. The review and programmatic changes will be completed by September 30, 1994.

E. EQUIPMENT MATERIEL CONDITION IMPROVEMENTS:

A major issue of focus in the Maintenance area is Equipment Materiel Condition. This has been identified as a problem at LaSalle by station management, the LBDT, INPO evaluators and NRC inspectors. Plant materiel condition has deteriorated to a condition less than CECO's standards to ensure lasting trouble free, safe operation. The identified concerns need to be aggressively addressed such that a reduction in the safety margin of plant operations will not occur. This condition is characterized by an unacceptable number of long standing Temporary System Changes; a station culture that accepts equipment work-arounds; the inability to resolve recurring equipment problems; the unacceptable availability of certain safety systems; and the poor housekeeping practices in the station.

Equipment Materiel Condition includes a close look at equipment problems which are impacting plant operations and overall equipment reliability. Resolution of these problems will require a strong, dedicated interaction between upper management, maintenance, operations and engineering personnel. Specifically, we are addressing these concerns in the following ways:

ATTACHMENT B (Continued)
PROGRAMMATIC IMPROVEMENTS AT LASALLE

1. EQUIPMENT IMPACTING PLANT OPERATIONS

Overall equipment performance and condition of the station is being addressed to resolve long-standing equipment problems, station work-arounds, and the elimination of compensatory actions which have been necessary to maintain equipment operating in a manual rather than in automatic mode. In Section B above, we discussed how we were improving communication of expectations to the workers. The workers will know that it is their responsibility to maintain the cleanliness of the plant, to identify equipment problems in the plant, to initiate work requests to fix the problems, and to fix the problems when they arise. In Section C above, we discussed Issues Management, including problem identification and resolution. Improvements we are making to our IRP program, Root Cause Analysis Team formation and Effectiveness Reviews will all play a major role in improving the equipment material condition so that unit operation may continue for extended periods of time.

Additional activities are underway to address equipment that is impacting plant operations. These activities include:

a. Initiation of a System/Program Readiness Review Board

During March, 1994, presentations by the Engineering staff to a forum of station management were made to inform them on the status and performance of plant systems and other engineering programs. This Review Board will review the "readiness" of plant systems and programs and will provide the necessary support needed to maintain sustained system improvement over the long term. Except during refueling outages, the Readiness Review Board will meet at least monthly. The presentations will be selected based on a priority system that focuses on problem systems that have a high impact on plant safety and reliability. This process will enable a concerted effort to focus the necessary resources at correcting and solving plant problems through a managed priority system.

b. Resolution of Station Work-Around Issues

A critical self-assessment of station activities was performed and identified issues which placed burdens on operators in the plant and caused them to take compensatory measures to maintain systems in operation. These work-around issues in and of themselves did not present a significant problem to the operators, but did present an unwanted condition in which they had to perform additional tasks to compensate for the equipment not performing as designed. The self-assessment tabulated many instances where these conditions existed in the plant. These issues were subsequently corrected

ATTACHMENT B (Continued)
PROGRAMMATIC IMPROVEMENTS AT LASALLE

or action plans formulated for their resolution. Long-standing equipment operational problems such as these had become a way of life to the operators and were labeled as nuisances which had no apparent solution. To ensure these type of problems are remedied soon after they are discovered, operating management is now maintaining a log which is filled out by the individual finding the problem. Immediate management attention is then given to these items to ensure timely resolution.

Also, as discussed before, Problem Identification Forms (PIFs) are generated for the identification of problems in the plant and are intended to provide an immediate method for plant management to become aware of and correct worker identified problems, including work-arounds. New work-around issues that are identified through the PIF process will receive the same level of action as the work-arounds identified in 1993. As discussed in Section C, senior management involvement in the PIF process with a heightened level of awareness toward work-around issues will ensure that proper attention is given to these issues.

The number of installed Temporary System Changes also gives an indication of the number of work-arounds. The LaSalle Site Support Engineering group has been assigned the task of reducing the number of non-outage related Temporary System Changes that are open for more than 30 days to less than 33 by December 31, 1994.

2. EQUIPMENT RELIABILITY

Repetitive equipment failures have resulted in equipment not being in a readiness state when called on to operate, resulted in additional resources being used to facilitate repairs, and caused a buildup of backlogged equipment waiting for maintenance. We have already discussed improvements that we are making in the Issues Management area. To improve overall equipment reliability, it is essential that we promptly identify equipment problems, determine the root cause of the problem and fix the problem the first time without having to do rework.

Additionally, we are strengthening Engineering's involvement in maintenance activities. In order to improve equipment performance and reliability, Commonwealth Edison began implementing a strategy during 1993 which would focus upon a combined effort by Maintenance and System Engineering to control the work process. System Engineering will be defining, approving, and prioritizing certain maintenance activities and providing technical direction for the operation of equipment. Although this effort will not be completed until 1995, many activities are in progress and will be in place during 1994. These activities include: an analysis of maintenance activities by System Engineering both prior to and subsequent to the work to ensure the root cause of the repair has been correctly identified and that all other similar equipment has been addressed; incorporation of a Reliability Centered Maintenance (RCM) program which will develop statistical

ATTACHMENT B (Continued)
PROGRAMMATIC IMPROVEMENTS AT LASALLE

methods for predicting failures for the design of proper preventative maintenance schedules; and development of performance measurement goals and monitoring to ensure equipment maintains its highest reliability and is available at all times when needed.

In order to perform these tasks, the System Engineer will take on the responsibilities of a System Manager. In these positions, they will ensure the equipment within their systems is operating at its highest possible availability, that preventative maintenance activities are efficient and cost effective, and frequencies of failures are minimized. More importantly, with improved system performance, maintenance personnel will then be able to concentrate more fully on perfecting work techniques, processes, and subsequent work performance.

F. LASALLE MAINTENANCE INVESTIGATION TEAM FINDINGS AND RECOMMENDATIONS:

A special site review was conducted by a NRC Augmented Inspection Team (AIT) on September 16 through September 21, 1993, relative to the September 14, 1993 loss of Station Auxiliary Transformer event at LaSalle Unit 1. The AIT was concerned that inadequate maintenance resulted in several equipment failures that occurred during the event and recovery. Inadequate maintenance was also noted as a contributing factor in other events at LaSalle. The AIT recommended that we carefully assess the scope of our current maintenance activities and practices.

Based on the concerns raised by the AIT, the Site Vice President commissioned a special maintenance investigative team (MIT) to conduct an investigation of our maintenance practices. The MIT looked at approximately twelve reportable events that occurred since March 1992. All of these events were either caused by equipment failures or included equipment failures/problems that complicated recovery actions. Approximately 30 to 40 equipment failures/problems occurred in these events and the MIT examined about one-third of these failures. With few exceptions, the MIT determined that these failures had precursors or were actually one of a series of recurring failures.

The investigation was comprehensive with the MIT looking at all facets of the maintenance program. The MIT determined that equipment failures were occurring for a number of reasons. The failures could be traced to the following:

1. A lack of clarity of the roles that the various station organizations play in the overall maintenance effort,
2. Weaknesses in LaSalle's root cause/corrective action program,
3. Poor corrective maintenance practices, and

ATTACHMENT B (Continued)
PROGRAMMATIC IMPROVEMENTS AT LASALLE

4. Weaknesses in the preventative maintenance program.

The MIT provided seventeen recommendations that LaSalle could utilize in addressing the identified problems. The LaSalle Maintenance Superintendent chartered a multi-departmental team to address the MIT recommendations. This team considered the recommendations of the MIT in conjunction with other maintenance related programs which were under development, including the CECo Maintenance Strategy Initiative and the 1995 implementation of the NRC Maintenance Rule.

This team met for approximately two months and developed a comprehensive Maintenance Strategy Implementation Schedule to address all of these issues. In preparation for the LBDT activities, portions of the Maintenance Strategy, including the MIT recommendations, were grouped into basic issues. Some of the members of this team were then assigned to LBDT Action Teams (Maintenance and Engineering) in an effort to ensure that the LBDT addressed the selected Maintenance Strategy issues, including all of the MIT recommendations.

We recognized the need to begin actions to address the MIT issues independent of the LBDT work. Personnel were assigned responsibilities for actions which could be initiated immediately. These actions included:

1. ROLE OF STATION ORGANIZATION IN OVERALL MAINTENANCE EFFORT

- a. We are communicating responsibilities and expectations of each individual with respect to the total maintenance program. This begins with the role of each individual in identifying equipment problems and work-arounds, and following good housekeeping practices.
- b. As discussed in Section B, we are focusing our efforts on communication of our expectations and involving senior managers in plant activities to reinforce this communication effort with on-the-job feedback.
- c. As discussed in Section C, we are emphasizing each individual's role in our IRP process.
- d. As discussed in Section E, we are communicating the role of the System Engineer in the maintenance effort. The System Engineers will be defining, approving, and prioritizing certain maintenance activities and providing technical direction for the operation of equipment.

ATTACHMENT B (Continued)
PROGRAMMATIC IMPROVEMENTS AT LASALLE

2. CORRECTING WEAKNESSES IN ROOT CAUSE/CORRECTIVE ACTION PROGRAM

We have begun addressing inadequacies in LaSalle's Root Cause and Corrective Action Program. This effort is described in detail in Section C.

3. CORRECTING POOR MAINTENANCE PRACTICES

- a. We are developing a formal "Rework" program for identifying rework issues. Until this program is implemented, we are utilizing IRP to document potential rework issues.
- b. We have provided the means for documenting "as found" conditions on failed equipment to aid in the root cause determination. We will be training personnel on the need to accurately record "as found" conditions on work requests and in the Total Job Management system, and the need to save failed or replaced parts.

4. CORRECTING WEAKNESSES IN THE PREVENTATIVE MAINTENANCE PROGRAM

- a. Coordination of the Preventative Maintenance program is being assigned to System Engineering. Actions are already being taken for transfer of this responsibility.
- b. System Engineering is in the process of evaluating preventative maintenance on the Electro-Hydraulic Control System, the Station Auxiliary Transformers, and the Unit Auxiliary Transformers. System Engineering will be evaluating preventative maintenance on other systems in the future. Systems are being selected for evaluation based on a priority system that focuses on problem systems that have a high impact on plant safety and reliability.

We recognize that we have a lot of work to do in order to get our overall maintenance program to where we want it to be. We have already taken actions that will provide benefits to our maintenance program. The recommendations of the MIT are actively being pursued. Some of our actions addressing these recommendations have been completed while other actions have either been partially completed or are in the developmental stage. We have verified that the MIT recommendations are included in the BUP. Our commitment to carrying out the BUP will ensure that we carry out the actions that address the MIT recommendations.