

ORGANIZATIONAL EFFECTIVENESS ASSESSMENT

REPORT

FOR

SALEM NUCLEAR GENERATING STATION

MARCH 24, 1995

ATTACHMENT 2

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### ORGANIZATIONAL EFFECTIVENESS ASSESSMENT

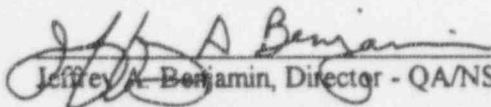
#### CHARTER:


*Perform a management-level assessment to determine:*

- 1. Why corrective actions previously defined to correct performance weaknesses and deficiencies have not been effective in achieving sustained performance improvements, and,*
- 2. Identify organizational and personnel weaknesses that will hinder current performance improvement efforts.*

This self assessment will evaluate the Salem organization's ability to effect a prompt improvement in operational performance, followed by continued long term improvement, such that NBU goals to reach top quartile performance can be realized. Substantial effort has been previously expended to identify performance weaknesses and implement corrective actions. Many of these problem areas will be reviewed during the course of this assessment to evaluate corrective action effectiveness and gain a better understanding as to why sustained performance improvement is not being achieved.

The conduct of the assessment will include observation of activities and interviews with personnel that represent a cross section of responsibilities and levels. A briefing of PSE&G management will be held to convey findings and recommendations. Updates will also be provided to NRC management. A final report of the Team's findings and conclusions will complete this assessment.

  
Jeffrey A. Benjamin, Director - QA/NSR

  
Leon R. Eliason, Chief Nuclear Officer

## BACKGROUND

A self assessment of the NBU's organizational effectiveness was initiated by the CNO because the current improvement actions at Salem were not yielding the expected results. The actions resulting from previous assessments were aimed at achieving a high level of operational safety and reliability at Salem. Since problems have persisted, the question arises as to whether current actions are adequate, and if they are, why haven't we achieved the desired improvements in plant performance and what else should be done to achieve performance goals? The assessment is focusing on organizational effectiveness and personnel performance.

## TEAM COMPOSITION

This assessment will be performed by a team of highly-qualified, independent persons with demonstrated skills in managing quality operations and performing critical assessments. The team will report the results to the CNO. The following is a listing of team members, their affiliations and associated areas of responsibility:

Ken Harris (formerly FP&L): Operations (Team Leader)  
 Jay Doering (PECO): Corrective Actions  
 Carl Andognini (formerly APS): Maintenance/Surveillance  
 Gerard Goering (NSP): Engineering/Technical Support  
 Bill McLane (PG&E): Outage Performance

## FUNCTIONAL AREAS AND PRINCIPAL ISSUES FOR ASSESSMENT:

- Operations
  - Operations "ownership" of the plant
  - Effectiveness of interfaces and communications
  - Effectiveness of operation's control of activities in progress
  - Practices relative to work around and procedural adequacy
- Maintenance
  - Control of maintenance activities, including planning
  - Conduct and scheduling of maintenance
  - Support of maintenance activities
- Engineering/Technical Support
  - Effectiveness of system engineers in support of operations
  - Adequacy of engineering prioritization to support plant needs
  - Effective use of design engineering in support of plant operations
  - Effectiveness of communications and interfaces between engineering, operations, and maintenance
- Corrective Action
  - Management involvement/ownership of corrective action program
  - Effectiveness of root cause determinations and follow through to problem resolution, including operations/engineering involvement

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- Outage Performance
  - Milestone planning and scope control
  - Communications
  - Outage management controls
  - Outage planning/scheduling controls

The following are typical questions which may be asked during interviews with NBU personnel:

- How effective is the organization in dealing with known problems by finding root and contributing causes and instituting effective and lasting corrective action?
- Have clear expectations and standards been communicated from the next higher management/supervisor level?
- How do standards/expectations and planned actions at Salem correspond to those current in the industry? How effectively are they conveyed, accepted and implemented?
- Have managers/supervisors accepted these standards/expectations and have they rolled them down into the organization such that they are accepted?
- Do support groups place adequate priority on operations and are interdepartmental communications effective to resolve emergent work?
- Have managers/supervisors adequately self-assessed their own performance and identified needed improvement?
- Have managers/supervisors defined and planned their work in accordance with prioritized work activities consistent with available resources? Have managers/supervisors identified appropriate results and performance indicators?
- Have managers/supervisors reached agreement on their plans and priorities with the next level of management? Are managers and supervisors held accountable for performance relative to plans?
- Have managers/supervisors identified needs for additional resources and taken action to acquire more; and has management supported this action?
- What is the overall assessment of the situation and trend in each functional area and across organizational interfaces?
- What short/long term actions are appropriate to put Salem on a well-defined path to top quartile performance?

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### SCHEDULE

The following is an overall schedule for the conduct of this assessment:

2/27 - 2/29	On-site
3/6 - 3/10	On-site
3/20 - 3/24	On-site (Management Debrief - 3/24)
3/27 - 3/31	Finalize report

Completion: March 31, 1995

### DELIVERABLE:

The organizational Effectiveness Assessment will be documented by a report in the following format with Sections III through VII each having an Overview, Findings, Observations and Recommendations:

- I. INDEX
- II. EXECUTIVE SUMMARY
- III. OPERATIONS
- IV. MAINTENANCE
- V. ENGINEERING/TECHNICAL SUPPORT
- VI. CORRECTIVE ACTION
- VII. OUTAGE PERFORMANCE

OPERATIONS AND MAINTENANCEOVERVIEW

The integrated assessment of the [REDACTED] consisted of a review of departmental documents including procedures and records; interviews with [REDACTED] and interface relationships with other department personnel. For the [REDACTED], observations of control room activities including shift turnovers were conducted.

OBSERVATIONS

- A great deal of confusion exists within the [REDACTED] as to whether the [REDACTED] has the operational ownership of the plant. The [REDACTED] perceive that the plant is schedule driven and supporting organizations feel schedules are not adhered to and are revised to meet [REDACTED] needs and/or desires. The [REDACTED] feel that if they had ownership of plant, items such as the work around list, [REDACTED] administrative burdens, lack of staff to complete shift complement, insufficient interdepartmental support from the [REDACTED] departments and the perceived lack of support from [REDACTED], would be resolved.
- The organization clearly lacks a "team approach" in the resolution of problems. Some examples are as follows:
  1. In the determination of a "Root Cause" for an event, a team approach is not utilized. Individual departments such as [REDACTED] and [REDACTED] are adamant that the use of other departments such as [REDACTED] and [REDACTED] are generally not needed, and if they are, it will be on a request basis.
  2. Operability determinations are completed without [REDACTED] and [REDACTED] involvement unless specifically requested.
  3. Design change packages do not always receive operability and maintainability review prior to finalization.
- From both the [REDACTED]' perspective, the 60 day time limit for the upcoming refueling outage on Unit 1, which negates the ability to install [REDACTED] in conjunction



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with the commitment to install [REDACTED] is incomprehensible (could be interpreted as sending an inappropriate message relative to providing resolution to long standing operational problems). Little, if any, [REDACTED] communications has been received by the organization on the matter and the teams assembled to conduct feasibility studies for the installation have been disbanded. However, conversations with [REDACTED] have revealed that the installation of [REDACTED] during the upcoming refueling outage is still under consideration.

- The [REDACTED] organization, especially in the [REDACTED], does not have a prepared work package backlog; therefore, there are periods during which qualified personnel are either idle or involved in tasks that are of a low priority or that are below their level of qualification. Either the processes utilized and/or the staffing levels of the [REDACTED] are inadequate. In addition, it is estimated a large percentage (in the 30% range) of the work packages received by the [REDACTED] are either corrected in the field by the [REDACTED] or returned to [REDACTED].
- In both the [REDACTED], work is either delayed, rescheduled or postponed because of "spare parts." A review to determine whether the spare part was not in the warehouse, the work package involved insufficient or inaccurate parts lists or the ordered parts were not received prior to scheduling of the task was not completed. The perception of both departments is that [REDACTED] is not supportive in having adequate parts available.
- The [REDACTED] located on [REDACTED] the unit control rooms does not function as a work control center and as such cannot meet the needs of [REDACTED]. Currently, it's primary function is to perform tagging to support maintenance; but, even for this function, staffing levels are inadequate.
- In the [REDACTED] the [REDACTED], in the [REDACTED] the [REDACTED], and in [REDACTED] the [REDACTED] appear to be competent, capable, and hardworking individuals who not only want, but need leadership. In addition, [REDACTED] state that:
  1. [REDACTED] are unavailable to provide leadership because of the amount of time spent in meetings and resolution of ATS items, etc.
  2. [REDACTED] are unwilling to make decisions for [REDACTED] and delegate even minor decisions to the [REDACTED] level.



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3. [redacted] continually fails to obtain input from the individuals involved in a specific activity prior to making a decision. As an example, [redacted] stated that no communication between them and [redacted] took place prior to the issuance of the work standards for [redacted] in the Work Standards Handbook.
- In the [redacted], most [redacted] are unwilling to accept supervisory positions because:
  1. They perceive that the s [redacted] are the " [redacted] bag-man."
  2. The position is a glorified clerk.
  3. Financial incentives for the position do not exist.
  4. The [redacted] are hindered from performing the function of the position because [redacted] establishes the priorities for the position.
  5. The [redacted] position is at times perceived as a [redacted] and not a [redacted].
- Observations indicate that events or even near events are occurring that could be significantly reduced or eliminate if appropriate [redacted] guidance and expectations were clearly delineated to [redacted].
- Personnel in the [redacted] are concerned that unitization will not appropriately address the areas of specialization.

### RECOMMENDATIONS

- [redacted] should take immediate appropriate actions to insure that [redacted] clearly understand that operational ownership of the plant has been managerially delegated to the [redacted].
- Interdepartmental barriers that currently prevent [redacted] departments from acting as an "Integrated Team" must be eliminated and [redacted] guidance provided, with appropriate accountability, to ensure that implementation has occurred and interdepartmental relationships continue to improve.

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- [REDACTED] guidance and expectations relative to a 60 day Unit 1 outage and the feasibility of installing the digital feedwater control system must be communicated to [REDACTED].
- [REDACTED] must determine the causes why adequate numbers of quality prepared work packages are not available for the [REDACTED], and must take appropriate corrective action.
- The cause for work being delayed, rescheduled, or postponed because of spare parts must be identified and corrected.
- An in depth review of the staffing requirements for the [REDACTED] [REDACTED] to support [REDACTED], support interdepartmental needs such as tagging, reduce administrative burdens on [REDACTED] such as the [REDACTED] and reduce overtime is required to be completed and implemented immediately.
- A comprehensive assessment must be conducted and appropriate actions implemented to provide the [REDACTED] the necessary incentive to become [REDACTED].
- To reduce events, [REDACTED] must immediately provide guidance and expectations to [REDACTED] relative to the fact that extra caution shall be exercised prior to the conduct of daily activities. The scheduler pressure must be eliminated and individuals must be encouraged to STOP prior to execution of any activity if doubt exists.

## ENGINEERING/TECHNICAL SUPPORT

### OVERVIEW

This assessment consisted of a review of many current internally and externally generated assessment documents. Interviews were also conducted with [REDACTED].

### OBSERVATIONS

- Lack of [REDACTED] direction has resulted in [REDACTED] functions for day to day operations being misdirected. [REDACTED] Salem organization retains a PSE&G fossil based focus. This attitude of "we can fix anything once it breaks" results in general fire-fighting that, while giving the organization a good feeling when fires are well fought, does not form a solid foundation for a well operated nuclear station. The [REDACTED] sections are viewed as a resource only to be called upon when needed. The idea that the [REDACTED] should be intrusive and lead responses to problems in the day to day operation of the plant is not prevalent with [REDACTED]. This results in a lack of proper focus for the [REDACTED] functions coupled with a general lack of leadership and direction.
- From interviews and observation it is clear that the [REDACTED] organization has a well functioning [REDACTED] program. From a historical perspective, the basic difference between the [REDACTED] approach and the [REDACTED] approach has been apparent to [REDACTED] since the start-up of [REDACTED] and the initiation of the [REDACTED] program at Salem. When questioned about this difference, [REDACTED] recognizes the strengths of the [REDACTED] situation and the problems associated with the [REDACTED]. When this line of questioning was pursued further as to what has or is being done to address this difference, the response was unsatisfactory. There is no evidence of an investigation of this difference or an action plan to upgrade the [REDACTED] even though this is one of the areas that has received significant criticism by [REDACTED] and the [REDACTED]. This recognized situation has been allowed to exist for years with no effective action being taken by the [REDACTED].
- There exists a lack of proactive, aggressive interfacing by the [REDACTED] with the [REDACTED] in support of [REDACTED]

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day to day operations. There is currently a general approach that both the [REDACTED] will get involved with issues "when called." This on call approach is directly opposite to the intrusive system ownership that is expected in a well functioning [REDACTED]. There should be no need for the [REDACTED] to ask who owns an emerging problem at the Plan of the Day meeting. The [REDACTED] should be reporting on the problem and the needed actions for addressing it at that meeting.

- There is a lack of an integrated process for the prioritization by the [REDACTED] in the following areas:

1. Technical issues
2. Plant modifications
3. Corrective maintenance

The lack of prioritization results in the mindset that everything is of equal importance and the organization and the individuals feel overwhelmed. It is a random chance that [REDACTED] and the [REDACTED] are working on the most value added items to support current operational needs.

- The [REDACTED] and specifically, [REDACTED] have become integrated into many relatively low value added processes. [REDACTED] must protect [REDACTED] available time carefully to ensure they have sufficient plant time to allow them to be effective in real time support of current issues.
- In an attempt to respond to the feeling of being overwhelmed, the [REDACTED] has formed a special group of [REDACTED] that are to be "first responders" to requests for technical support. This demonstrates [REDACTED] lack of understanding as to what [REDACTED] is to accomplish. This group, while well intentioned, will only inhibit the system ownership by [REDACTED]. The stated intent of this group is to insulate [REDACTED] from the day to day request of the [REDACTED] and allow them to attend to their real [REDACTED] work. This is directly counter to what is needed in the [REDACTED] at Salem.
- There is agreement that the technical resources available to the Salem [REDACTED] organization by the [REDACTED] and [REDACTED] are very good. The problem occurs in the focusing

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of these resources to solve the most operationally important technical issues in a timely manner. When a serious reoccurring issue becomes visible, the focus of these technical resources occurs, and a final solution is developed. The integration of these technical resources to support the [REDACTED] work has not occurred such that this support occurs in a seamless and timely manner. Expectations have not been communicated to the [REDACTED] that design support for operational issues need a high priority and that technical support is to engage [REDACTED] immediately when uncertainty exists but will retain ownership of the issue.

- A program to bring the [REDACTED] together for sharing of best practices, resources, team building or personnel rotation is in place but is not effective.
- There is no evidence that the [REDACTED] meets on a regular basis to address strategic technical issues or to prioritize resources or [REDACTED] issues.
- The [REDACTED] which will address many of the [REDACTED] problems that plague the plant is being delayed due to outage schedule constraints. This modification has high priority based on operational need. The [REDACTED] to date has not developed a plan to address the schedule constraints and the need to install the modification within the schedule constraints.
- There is multiple indications of [REDACTED] micro-managing technical issues which results in [REDACTED] not owning the issues and not being allowed to resolve the issues using normal processes. The result is confusion as to who has responsibility for an issue and [REDACTED] being ineffective in dealing with problems.
- Both [REDACTED] are overwhelmed and have been identified by [REDACTED] as a weak support area. The issues appear to have been caused by historical inattention to preventive maintenance and poor quality of older modifications. There is no indication that [REDACTED] has recognized this critical overloading nor is [REDACTED] taking any actions to address it other than allowing unlimited overtime for [REDACTED] I.
- Once a plant modification is approved for implementation, the [REDACTED] have little influence on the scope of the solution that is the final design. This approach can and has resulted in design solutions that are not responsive to the problem and tend to be complete change out of systems



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with the latest technology rather than an engineered upgrade to the existing equipment.

- There is limited indications that [REDACTED] interfaces with other nuclear plants to discuss approaches to problems. This appears to be a historical situation and is currently not being addressed in an integrated manner. When discussed with [REDACTED], the general response is that people are too busy to talk to any outside organizations.
- There is evidence that [REDACTED] over zealous enforcement of goals for the [REDACTED] to meet reductions in backlog numbers has resulted in sending the wrong message to [REDACTED] as to what is important. Attention to meeting goals is impacting the technical section's ability to focus on support of day to day operational problems.

### RECOMMENDATIONS

- Conduct a feasibility study to determine whether all [REDACTED] should be reorganized to report under the [REDACTED].
- To allow this organization to succeed, a critical examination of the current [REDACTED] needs to be performed to upgrade its capabilities to provide the leadership and management skills to address the current shortcomings at the Salem station. There are numerous examples in the nuclear industry where the proper application of strong leadership and management skills have made dramatic improvements to plants with significant problems. The application of these skills in a timely manner at the Salem station will address the negative observations discussed in the above finding and will allow the organization to succeed.
- The existing opening of [REDACTED], which is to be filled by an outside individual, requires an individual that has experience with an aggressive and well recognized nuclear system engineering program.
- Additional external experienced individuals should be placed in the organization to ensure that full time facilitation of the necessary changes will not be diverted by external events that could impact the line individuals' attention to the change process.
- Relocate [REDACTED] inside the security fence to enhance the communications between [REDACTED] and [REDACTED]. This is presently an effective group and by moving the group to a closer physical



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proximity to [REDACTED], the plants operational needs could be more effectively addressed. Having a dynamic, quick response group that can address operational work around issues in a timely manner is a critical need for the [REDACTED]. This group would team with [REDACTED] who should scope the solutions and sponsor the projects.

- A cross functional team should be given the task to revise the scope and installation plan for [REDACTED] system at the next outage. Input from other sites can be used to ensure that the major benefit from the project can be realized and the installation would not extend the outage beyond the current budgeted schedule.
- Rank in terms of value added the various programs and processes that the [REDACTED] are mandated to be involved in. Based on this importance ranking, reduce the routine load on the [REDACTED] significantly. This will allow the necessary time for [REDACTED] to develop the involvement and ownership of the daily and reoccurring operational problems of their respective systems.
- Institute a process to be applied to the current backlog of technical issues to ensure that the most operationally significant are being appropriately prioritized.

## SALEM OVERSIGHT

### OVERVIEW

Oversight at Salem consists primarily of audits and surveillances performed by the "██████" and the ████████ respectively. In addition, the ████████ conducts studies and issues reports which may be accompanied by recommendations. ████████ is supposed to provide oversight of plant operations for the purpose of detecting nuclear safety issues, although it does not appear that this is being done on a systematic basis.

The ████████ was analyzed by reading audit and surveillance reports, interviewing ████████, and attending ████████ meetings.

### OBSERVATIONS

- The ability of the ████████ to support needed improvement within the line organization was limited due to low performance. Weaknesses include;
  1. Audit report quality was inconsistent. Though occasionally good, overall they tended to be poor.
  2. Interviews with ████████ indicated that ████████ has lacked credibility in the past due to instances of poor performance.
  3. ████████ has not made a routine practice of assessing themselves by comparing their findings against those of external oversight.
  4. There did not appear to be a consistent policy of bringing only ████████ into ████████.
- ████████ did not consistently use findings as an important tool to leverage organizational improvement. Over the past five years, the number of findings decreased even as the plant performance was decreasing. Other indications of this are;
  1. A review of audit reports reveals that findings are often not issued even when significant performance deficiencies are noted.
  2. A well executed audit of Corrective Action Programs was performed in the third quarter of 1994 resulting in a finding being issued to the ████████. The agreed upon

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corrective actions appeared potentially effective, but due partly to lack of [redacted] follow through on the finding responses, they were ineffective.

3. Historically, extensions to due dates were easily obtained and frequently abused.
4. When [redacted] decided to move to a greater emphasis on performance based auditing, they were unable to articulate what that meant resulting in frustration for [redacted] when findings were rejected by [redacted]. Unclear expectations on what constituted a performance based findings tended to inhibit the writing of additional findings.
5. Another negative incentive for issuing findings was the additional work load created for the issuer of the finding who would take on the added responsibility, for follow up of corrective actions while still maintaining responsibility for scheduled audits.
6. [redacted] had difficulty in issuing findings due to inability to maintain independence while in close association with the [redacted]. This may be evidenced by a relatively low number of findings issued relative to the [redacted] despite the [redacted] proximity to [redacted] on a daily basis.

• Inappropriate behaviors within [redacted] reduced the impact of [redacted]. For instance;

1. In the past, some (estimated about 30%) [redacted] would strongly resist the issuance of QA findings. While this was highly dependent on the individual manager, it indicates deficient leadership in proper [redacted] behaviors and appreciation of the role of [redacted].
2. An event occurring in Dec 1992 is frequently discussed indicating that it remains an issue with some [redacted].
3. One [redacted] indicated that [redacted] recorded [redacted] findings in their performance evaluations.
4. The [redacted] expected that the [redacted] was "part of the team" implying that they should participate in activities that were in fact [redacted] responsibilities. This was also a problem for [redacted].

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5. Monitoring of the effectiveness of corrective actions resulting from [REDACTED] findings is not routinely done by [REDACTED]. (neither did [REDACTED] raise this as an issue.)
- Recent changes in [REDACTED] have produced significant improvement initiatives within the [REDACTED].
  1. A new [REDACTED] was named who has the high standards, the understanding the [REDACTED] function, and the leadership necessary to use the [REDACTED] organization to leverage organizational improvement. [REDACTED] is able to clearly articulate the important areas requiring improvement within the site organizations.
  2. Substantial changes are being made to the leadership within the [REDACTED] organization. A systematic approach is being taken to assure that [REDACTED] will fill [REDACTED] positions.
  3. Sound strategies on implementation of the audit program are being developed which will produce the greatest organizational impact. This includes a shift to a more performance based use of [REDACTED] resources, and plan for scheduling activities which optimize the benefit of the audit program.
  4. Innovative means of self assessing [REDACTED] effectiveness have been designed and are beginning to be implemented.
  5. A [REDACTED] process [REDACTED] will assist the organization in focusing resources on priority issues.
  6. Use of [REDACTED] assessment function, along with performance monitoring of [REDACTED] itself, has begun under [REDACTED].

### RECOMMENDATION

- The revitalized [REDACTED] organization being implemented, including the initiatives identified above, will clearly address the historical performance issues. This effort must remain highly sponsored and [REDACTED] should provide continual oversight until a high performance organization is achieved.
- [REDACTED] historically has not provided the leadership to create a work environment where [REDACTED] feed back was a valued learning tool. It must

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be clearly communicated to [REDACTED] that [REDACTED] feed back is a valued input for continuous improvement and validation of self assessment.

- [REDACTED] should upgrade its "Review of facility operations to detect potential nuclear safety hazards" (Tech Spec 6.5.1.6h) to a more rigorous assessment process.
- The reconstituted [REDACTED] should receive strong sponsorship from [REDACTED]. [REDACTED] should monitor [REDACTED] performance.



## SALEM CORRECTIVE ACTION PROGRAM

### OVERVIEW

The Corrective Action Program (CAP) at Salem was evaluated as follows;

1. Interviews were conducted with [REDACTED] organizations. A specific interview protocol was used for many of the interviews. Concerns were drawn from the interviews based on the experience of the interviewer.
2. Corrective action data was reviewed including incident reports, Action Tracking System (ATS), and implementing procedures to assess the proficiency of the Salem organization at learning from experience.
3. Meetings were attended where various elements of corrective action processes were implemented.
4. A historical review of the organization's response to external assessments was conducted.

While the programs which support the corrective action process were examined in detail, the overview took a broader look at organizational learning.

### OBSERVATIONS

- There is ample indication that [REDACTED] continues to experience problems which could have been prevented if adequate root cause determinations had been made, and corrective actions taken, in response to previous events. For example;
  1. Repeat problems with [REDACTED] had not received sufficiently rigorous analysis and correction to prevent their contributing to a recent event which required another root cause analysis.
  2. A recent serious clearance error is symptomatic of failure to learn from a number of minor attention to detail tagging errors attested to by [REDACTED].
  3. Several plant modifications, [REDACTED] did not resolve the entire problem which they were intended to correct.



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4. Repeat events were identified by analysis of Incident Report (IR) data over the last 15 months.
  - 94 IRs indicated inaccurate drawings
  - 64 configuration control problems were identified
  - Difficulties in control of maintenance activities were identified 36 times
  - Tagging problems appeared as causal factors in 32 IRs
- The present processes which support the CAP are not up to current industry practice, however, if implemented in accordance with the governing procedures, this would greatly enhance the CAP process.
- The existing CAP has not been utilized by [REDACTED] to improve performance. The following deficiencies were noted:
  1. [REDACTED] has developed a good data base of event data and have developed sound insights into where the organization needs to improve. For the most part [REDACTED] is "too busy" to take advantage of their work.
  2. Incident reports are not classified as to how rigorous an evaluation is to be performed. This has resulted in an excessive burden on the line organization resulting in a reduced appreciation for benefits of properly executing the program.
  3. Causal factors used to formulate corrective actions are too shallow.
  4. Corrective actions tend to address symptoms and not underlying causes.
  5. There is inadequate follow through on corrective actions.
  6. The data analysis which is being performed is marginally useful in the format presented and is not used by most [REDACTED] to improve organizational performance.
  7. Generic considerations are weak.
  8. The [REDACTED] does not verify the effectiveness of corrective actions.

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9. [REDACTED] do not review IRs at close out so are not aware of the quality of the investigations performed by their respective organizations.

10. [REDACTED] only reviews IRs if they become LERs.

• [REDACTED] has not adequately supported implementation of the CAP. The following observations were noted:

1. Clear responsibility for upgrading CAP has only recently been established, and the leadership for this change originated with the [REDACTED] instead of [REDACTED].
2. [REDACTED] are preoccupied with short term priorities at the expense of focusing on longer term corrective actions.
3. [REDACTED] are not demanding quality analyses from event data. Typically, [REDACTED] are not aware of the predominate event causal factors effecting the performance of their organizations. No feed back on the usefulness of event analysis reports has been received by the originator of the reports and at [REDACTED] admitted to not using the report.
4. Frequent turnover of [REDACTED] is cited as a cause for "open circuited" corrective actions, i.e., when [REDACTED] leaves, the corrective action [REDACTED] has sponsored dies.
5. A mentality of "if Salem didn't invent it, it can't be the best" was mentioned several times as being a historical factor. Travel to witness programs at other plants is infrequent.
6. Post job critiques are infrequently performed. [REDACTED] critiques were identified as being weak.

### RECOMMENDATIONS

- The following actions are recommended to improve the Corrective Action Program;
1. Continue with the current plans to establish a corrective action program with single point accountability and strong [REDACTED] sponsorship. As soon as practical, this function should be migrated back into [REDACTED].

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2. Consideration in developing the program for upgrading CAP should include as a minimum:

- i. A resource loaded plan which defines the development and implementation, including user training and a period for monitoring effectiveness.
- ii. Site visits to other plants identified as having strong corrective action programs.
- iii. Integration of all site corrective action processes into one data base, with one comprehensive set of causal factors.

- [REDACTED] should put in place appropriate [REDACTED] systems that promote strong organizational alignment, high accountability, and appropriate [REDACTED] oversight. The current initiative to establish a biweekly meeting with performance indicators and attendance down through [REDACTED] may represent the right approach but the design and implementation need rework. A visit to a plant where this is done well is a must.
- Commitment Tracking reports and performance indicators sorted by organization and indicating the types of commitments should be made available on a routine basis in an accountability forum involving [REDACTED]. These reports should track backlogs, aging, overdues, goals, use of extensions, and prioritization. Indicators should be accompanied by analyses and recovery plans.
- Adherence to the existing programs supporting causal factor analysis, e.g., the IR Program, is mandatory. Although not optimal, the current process must be followed. [REDACTED] must insure that significant plant problems are entered into the system for evaluation. Hardware nonconformances must have bases for operability determinations.

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### OUTAGE PERFORMANCE

The assessment process of the [REDACTED] consisted of interviews with [REDACTED] interfacing with the Outage Process. These interviews included [REDACTED]

### OBSERVATIONS

- The PSE&G Nuclear Department procedure NC.NA-AP.ZZ-0055(Q) - Rev. 1 requires the establishment of Outage Milestones and Scope Control, but many of these controls have not been implemented. Many Design Change Packages are not issued with adequate time to properly plan and prepare for implementation in a properly scheduled Refueling Outage. Scope is continually being added and little or no Scope Control is being implemented.

[REDACTED] is starting to schedule the development of Design Change Packages. Up until this time very little scheduling has been done of the design process. Thus true estimates of how long it takes to develop the design and associated work packages and materials procurements have not been done. Because of the lack of these schedules [REDACTED] has been unable to track its performance to ensure it meets scope cutoff dates.

The Plan-Of-The-Day (POD) is a very large document and does not provide the basic information of the accomplishment of the past shift and what is the focus and critical path work to be done today. [REDACTED]

[REDACTED] were not sure what the critical path was to getting the units back on line and very few could determine any required sequencing from the Outage POD.

- A high percentage of the Work Orders require correction or modification prior to the work beginning. The Work Orders are not issued to the [REDACTED] with adequate lead time to ensure that the planning is correct and the information in the package is ready for work.

[REDACTED] are very frustrated in trying to provide information to work planning to improve future Work Orders because their changes are seldom incorporated.

[REDACTED] is understaffed and is not producing the quality of Work Packages needed. [REDACTED] are rushed and the quality of the package

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varies widely depending on the planner. [REDACTED] report that more than 30% of the Work Packages need to be corrected before the work orders go to the field.

The [REDACTED] does not have adequate time and manpower to review returned packages to incorporate recommended changes provided by [REDACTED] have, for all practical purposes, stopped providing improvements because they are not utilized.

The [REDACTED] process is very poor. This manual system requires numerous unnecessary trips to [REDACTED]. A new automated electronic system is about ready to be placed in service at Hope Creek, but is not scheduled for Salem until some time later this year.

- The [REDACTED] does not run the outage. The outage is run by the [REDACTED] and as the [REDACTED] rotate so does the perspective of the outage.

The present Outage Meetings have become a problem because [REDACTED] often changes or redirects daily activities of the outage at the 0800 meeting. Some of [REDACTED] are now waiting for this change in direction before they start their daily work assignment.

Quite often the status that is given in the 0800 meeting is given to protect [REDACTED] image rather than reflecting the true progress of the outage. These reports are usually corrected after the meeting in smaller one-on-one meetings.

[REDACTED] does not always provide adequate [REDACTED] support to [REDACTED] during the outage.

[REDACTED] position in the [REDACTED] structure does not provide proper [REDACTED] authority to match the responsibility for running the outage.

Preparation and the direction of the outages has improved from the past but it is still poorly organized and does not function well. The shift to shift direction does not drive the outage. The interface between organization for transitional jobs is very poor. The contact points for various organization vary from shift to shift and critical path jobs are often delayed in the transition from one group to the next.



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- [redacted] have been poorly organized. [redacted] are not selected properly and they are not trained on how to develop and run a [redacted]. [redacted] do not function well during the outage because of the lack of support and understanding and what [redacted] really are.

Following the completion of major repetitive task and at the end of each outage a large number of ideas are discussed to improve the next outage but only a small number of these ideas are captured and incorporated

- Outages scheduling is a major problem. There appears to be inadequate focus or enforcement of the schedule.

[redacted] seldom know what jobs are going to be run each day until they call [redacted]. Sometimes they don't find out until they are needed to support the work in the field and they become critical path until they can support the job. Jobs are delayed because different jobs end up trying to work in the same exact location or even on the same component.

The only group that came close to following the schedule was [redacted].

The schedule is a record of what has been done and not what is to be done. [redacted] are not given a schedule to follow. [redacted] are not given the schedules for their work to review and comment. They feel that this must be done for them to properly organize their crews outage work.

Inadequate time is taken by all [redacted] to review and comment on the outage schedule resulting in no one having a high confidence in the schedule.

## RECOMMENDATIONS

- Develop an outage scope control program that appropriately addresses late scope additions. Pre-outage milestones should be utilized during the planning phase of the outage and be directly incorporated into the present scope control procedure.

[redacted] should schedule the development of total design packages to support the outage schedule.



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- Revise the Plan-Of-The-Day to provide a more informative and user friendly one or two page document. Contact other nuclear facilities for document design.
- In order to develop and implement a [REDACTED] that would greatly enhance Salem's ability to plan, control, and implement all related activities during outages as well as normal operation, it is recommended that INPO be contacted for an outage assist visit.
- [REDACTED] should be revised, organized, and operated consistently with the programs of other successful utilities.
- [REDACTED] should provide the leadership and guidance to insure that all schedules are adequately prepared, reviewed, and implemented.
- The [REDACTED] must be placed in charge of the outage and [REDACTED] must support his position as being in charge.

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EXECUTIVE SUMMARY

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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APPENDIX

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