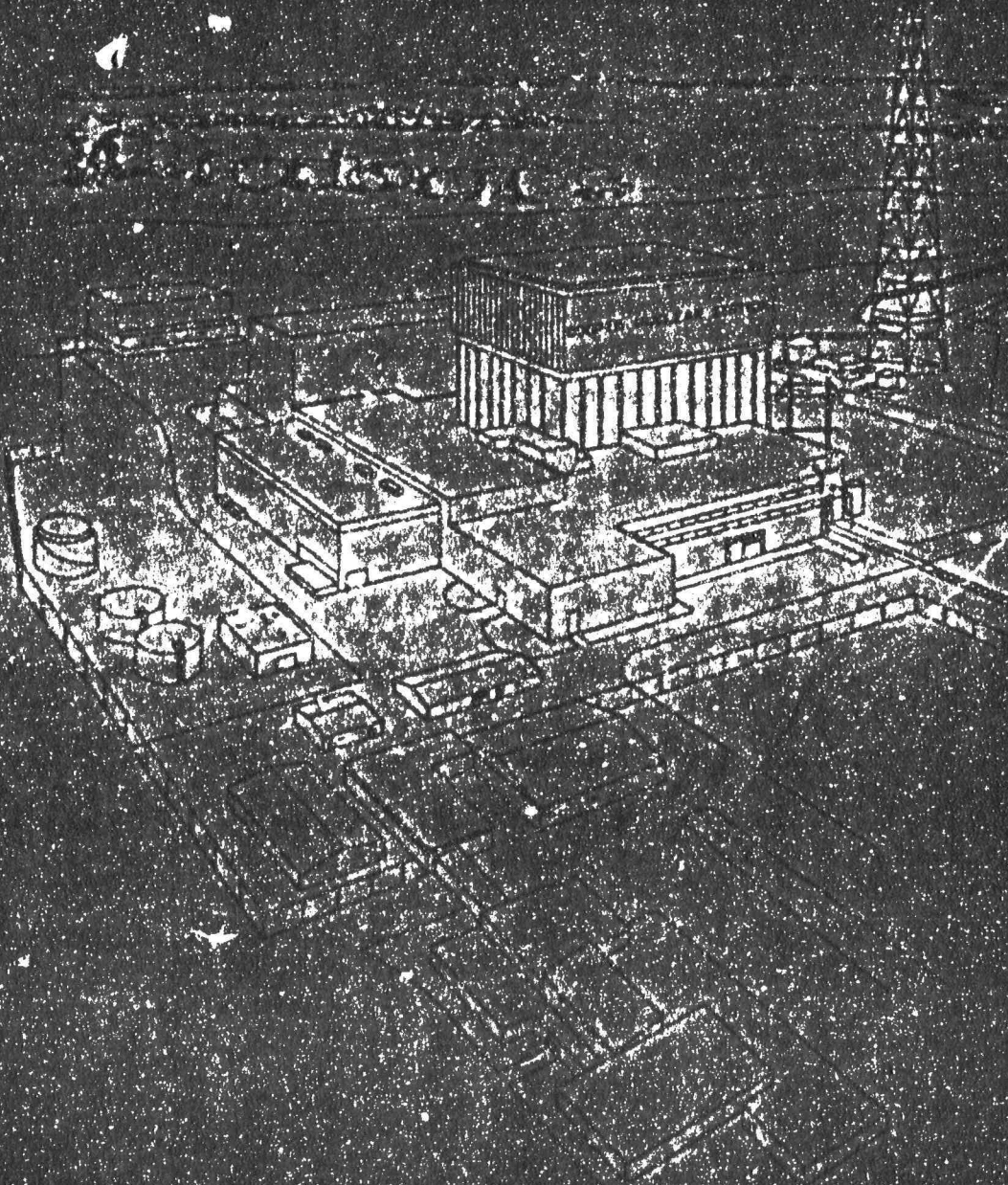


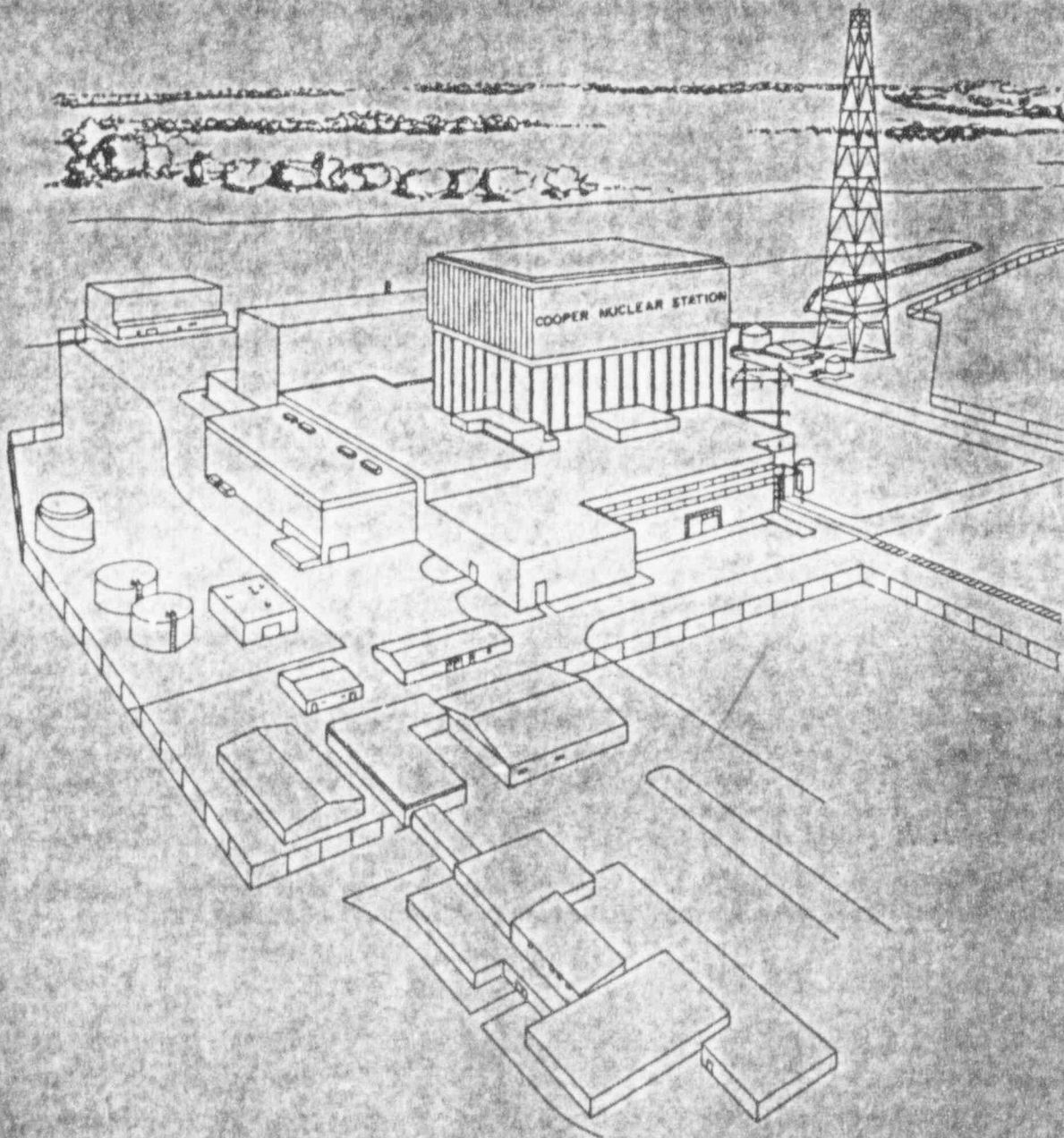
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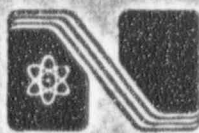
Nebraska Public Power and Utility Board

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COOPER NUCLEAR STATION 1992 SALP ACTION PLAN



JULY 1992



Nebraska Public Power District

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**1992 SALP ACTION PLAN
FOR
COOPER NUCLEAR STATION**

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1992 SALP ACTION PLAN FOR
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EXECUTIVE SUMMARY

The SALP Report (50-298/92-99) for Cooper Nuclear Station (CNS) provided the NRC's evaluation of CNS performance for the period July 16, 1990, through January 18, 1992. Although we were certainly pleased to achieve improved ratings from Performance Category 2 to Performance Category 1 in the Maintenance/Surveillance and Security functional areas, we were very disappointed in the decline from Performance Category 1 to 2 in the Operations and Radiological Controls functional areas. The strengths and weaknesses identified by the SALP report in these areas as well as those identified in the Emergency Preparedness, Engineering/Technical Support and Safety Assessment/Quality Verification functional areas have been particularly helpful to NPPD in directing management attention and resources in our continuing efforts to improve on excellence.

This 1992 SALP Action Plan addresses the specific NRC concerns identified in the SALP Report. The Action Plan is intended to accomplish the following:

- provide a complete compilation of NPPD actions taken or in progress on NRC concerns identified in the SALP report;
- provide a discussion of program enhancements relating to SALP identified concerns;
- provide a status report of actions taken or in progress regarding NRC concerns;
- provide direction and focus for all Nuclear Power Group personnel.

Although particular management emphasis has been directed in the Operations, Operations Training and Radiological Controls areas, all concerns are specifically addressed in the Plan. We believe this SALP Action Plan will serve as a guide for managing the numerous activities underway or planned associated with the recent SALP report. Further, the Action Plan will serve as a catalyst for additional program enhancements in the future.

At NPPD, management is guided by three key precepts that have made CNS successful in the past and will continue to make us successful in the future:

- nuclear safety is of paramount importance -- all other issues are of secondary consideration;
- continually rising standards of performance are necessary to achieve and maintain excellent performance;
- developing and sustaining a self critical, questioning attitude among all employees is to be strongly encouraged at all organizational levels.

The District is firmly committed to achieving and sustaining higher levels of excellence in nuclear operations. This commitment translates to the goals of (1) reestablishing Performance Category 1 ratings in both the Operations and Radiological Controls areas, (2) maintaining existing Category 1 ratings and (3) improving from Category 2 to 1 in at least one other functional area in the current SALP period. We believe this SALP Action Plan, when combined with the other Nuclear Power Group initiatives, will assist us in achieving the performance necessary to attain these goals.

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OPERATIONS EXECUTIVE SUMMARY

To ensure that complex emergency operating procedures (EOPs) can be performed as written, Procedure 0.4 (preparation, review and approval of procedures) was revised to include plant walkdowns during validation and verification. During the Fall/Winter of 1991/1992, all Emergency and Abnormal procedures were walked down resulting in the conclusion that all can be performed as written. During the same period, CNS EOPs and EOP Support Procedures were verified to be technically accurate and able to be used effectively. In June of 1992, CNS EOPs underwent simulator validation resulting in the conclusion that they are usable by operators under dynamic accident conditions. Procedure 0.4 criteria is applied to all procedure changes by the responsible Supervisor. Management, during their review of procedure revisions, will ensure that plant walkdown criteria is applied and walkdown acceptance criteria is met prior to procedure approval for implementation.

To ensure adequate safety evaluations of emergency procedures by multi-disciplined groups, the EOP Support Procedure Verification Instruction has been revised, and implemented, to include Radiological and Engineering Department personnel.

To ensure adequate control of independent valve verification, Procedure 2.0.1, Conduct of Operations, was revised to include a policy statement regarding independent verification, resulting in no known missed verifications since approval.

To alleviate any further operator weaknesses for failure to issue temporary procedure changes and use of procedures for operating evolutions, the Operations Supervisor has held discussions with each crew stressing procedural compliance, and the Division Manager of Nuclear Operations has issued a letter to all CNS personnel concerning the accuracy and adequacy of station procedures. Management continues to monitor procedure usage and compliance by evaluating Inspection Reports, NCRs, LERs, QA findings, etc.

To prevent any further instances of missed surveillance testing, the computer-based surveillance scheduling system has been modified so that surveillances are now included in the weekly schedule until they have been performed. The Surveillance Coordinator was also counselled on the need for accurate scheduling of surveillance tests. Additionally, CNS is planning to replace the present software with a more flexible, human factored network based system.

To prevent instances of failure to follow procedures and inattention to detail while performing surveillance procedures, LERs have been routed, Industry Events Training has been conducted, and the Division Manager of Nuclear Operations has issued correspondence addressing the issues of complacency and maintaining a questioning attitude. Management continues to monitor the effectiveness of the actions taken by evaluating Inspection Reports, NCRs, LERs, QA findings, etc. In addition, a self-checking program will be implemented in for all groups within the station that conduct hands-on work.

Management has spent significant effort and time in the Licensed Operator Training Program to ensure that weaknesses in the areas of operating crew command, control, and communications, operating procedures and failure to convey management expectations for operator training performance have been addressed. In support of this heightened attention, CNS Management and Supervision has: visited other operating Nuclear plants to benefit from industry experience, expanded guidance on operating philosophy, participated more in training evaluations and subsequent critiques, and revised procedures to provide more specific guidance in this area. Additionally, a new policy on crew command and control, and a revision to the current Operations Communication instruction, will be issued.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: A-1-a Assigned To: E. M. Mace
Senior Manager of
Staff Support

Description:

Appropriate management conservatism was not always evident:

- a. Temporary elevator cable caused a scram.

Root Cause:

The root cause of this event was failure to establish and implement sufficient work control measures for the Reactor Building roof refurbishment activity. In retrospect, it became clear that while extensive efforts were made to assure that installation of the temporary elevator was safe and that initial job preparations were thorough, we did not establish sufficient work control measures and/or limiting "criteria" to assure that job execution would not affect safe operation of the facility.

Action Taken:

Corrective actions taken included verification of proper transmission system protective relay operations, transmission line inspections, and inspections and testing of the Normal, Startup and Main power transformers. The temporary construction elevator was relocated to the north side of the reactor building. Additionally, extensive work control measures and inspection requirements were established for completion of the roof refurbishment effort.

Action Planned:

Because of the experience gained from this incident, the potential risks associated with project work to be performed at CNS are now evaluated more thoroughly. New stringent job control measures have been implemented to assure that such an event will not be repeated. We have also instituted daily Construction Management job walkdowns for all projects and routinely discuss project progress reports at the daily NPG senior management teleconference.

Schedule:

Although the controls necessary to safely complete the roof refurbishment were implemented, management continues to evaluate and upgrade the controls for infrequent/unusual work.

Adequacy of Results Achieved:

We believe that the additional infrequent/unusual work controls established and implemented as a result of this event have resulted not only in achieving safe, reliable plant operation, but also in developing a more questioning attitude throughout the entire NPG. This attitude has carried over into more routine activities, as well as plant operations. 1991 ended without a single unplanned scram event at CNS; we see this as direct evidence of the effectiveness of our corrective measures and the more conservative management approach to infrequent/unusual work.

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Item No: A-1-b Assigned To: E. M. Mace
Senior Manager of
Staff Support

Description:

Appropriate management conservatism was not always evident:

- b. NOUE not declared when both diesel generators (D/Gs) were declared inoperable.

Root Cause:

Two root causes have been established for this event. First, we misinterpreted the intent of the EAL requirement regarding the term "loss", which was interpreted to mean in the physical sense and not in the strictest term of "inoperable", as defined in the CNS Tech Specs. Accordingly, although the D/Gs were considered inoperable by Tech Specs due to D/G HVAC seismic concerns, the D/Gs were not considered "lost" from an Emergency Planning standpoint. In retrospect, this decision was contrary to station management's normally consistent and conservative decision making process. Secondly, the affected Emergency Planning procedure for event classification was inadequate with regard to defining the term "loss". Accordingly, the lack of procedural guidance contributed to the inconsistent emergency planning decision.

Action Taken:

Following senior management review of the event, a letter fully describing the event and the corrective action to be taken was routed to CNS Managers and NPG Division Managers. Although the decision resulting from this event was not typical NPG management practice, we chose to issue the letter to management (in addition to the procedure change) to bring to light and further reinforce the need for consistent and conservative decisions in every aspect of plant operation. Additionally, the Emergency Planning classification procedure (EPIP 5.7.1) has been revised to clarify that the term "loss", noted throughout the EALs, is synonymous with "inoperable".

Action Planned:

Station management will continue to monitor, question and self-critique decisions related to Emergency Planning classifications. Although not anticipated, if additional problems are noted, a more in-depth root cause analysis and likewise, a more extensive corrective action plan will be instituted.

Schedule:

With the approval of EPIP 5.7.1 on June 11, 1992, all short term corrective action has been completed.

Adequacy of Results Achieved:

We are convinced that the probability for recurrence of this type of event is minimal due to the corrective measures taken and the conservative management attitude that is typical within the NPG. However, we also recognize the potential consequences of an event mis-classification and consider this specific issue as a learning experience that will focus increased management attention on inoperable plant equipment and the relationship to Emergency Plan classification.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: A-3

Assigned to: J. W. Dutton
Training Manager

Description:

During simulated emergencies, the ability of operators and crews to monitor and diagnose equipment and plant conditions and take appropriate action was sometimes weak, indicating a lack of generic skill among operators. Examples included not adequately monitoring suppression pool parameters, failing to recognize the unavailability of the high pressure coolant injection pump, and failing to observe and investigate a diesel generator trip during a surveillance test.

Root Cause:

This observation, when tied to the examples given, appears to be based on the 1990 EP Exercise weakness (298/9025-02). This weakness was subsequently evaluated during the 1991 inspection (50-298/91-12) and closed. The root cause of this weakness was determined to be the result of inadequate training.

Action Taken:

We do not believe CNS Operators currently exhibit a generic lack of diagnostic skills. Subsequent to the 1990 exercise weakness, the site-specific simulator has been used for operator training. Emergency Operating Procedures have been upgraded to EPG, Rev 4 and flow-charted. Operator performance has consistently improved subsequent to the inclusion of the simulator in their training. When isolated incidents of crew and/or individual operator mis-diagnosis occur, the crew and/or individual is remediated. When recurring weaknesses are identified in more than one crew or individual, special weak area training is developed and presented to all crews.

Simulator Training and post-exercise critique methods have been revised to more effectively provide feedback to the operators, thus better identifying weaknesses so that they may be corrected. Instructor led crew self-critiques of strengths and weaknesses, as they directly relate to crew competencies, have effectively identified weaknesses previously overlooked or not stressed. The installation of an audio/video system to further support the operator critique process in the simulator is planned for 1992. Crew response and self-commitment to learn from their mistakes have improved crew performance. With emphasis on communication, command and control, Instructor Guideline NTG 318 has been developed and is in use in training and evaluation of the crews. This NTG is being provided to all Licensed Operators so that they are aware of the attributes by which they are being evaluated.

Action Planned:

The Training Department will continue to upgrade the programs as needs are identified.

Schedule:

Program upgrades will be pursued on a continuing basis.

Adequacy of Results Achieved:

No further problems of the magnitude described have been experienced. Increased management overview has been directed to this area and will be used to verify the effectiveness of these program enhancements.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: A-4

Assigned To: J. W. Dutton
Training Manager

Description:

The performance of operating crews during simulated, nonroutine emergency conditions was weak. Operating crews exhibited difficulty in decision-making and in overseeing the response to simulated, nonroutine emergency events.

Root Cause:

The root cause of this item was insufficient training on Emergency Plan actions while controlling the plant during off-normal conditions.

At the time of the inspection during which this item was noted, Operators had traditionally been trained on EALs, PARs and Notification with "table top" exercises. Emergency Plan training had not yet been incorporated into simulator training. The complications involved in controlling the plant while simultaneously performing Emergency Plan actions had not been recognized, since Emergency Plan training for licensed operators in the simulator was limited to EAL classification, announcement, and notification of the Division Manager of Nuclear Operations (DMNO). At that time the Shift Supervisor/Emergency Director responsibilities were considered to be turned over to the DMNO.

Action Taken:

All shift crews were provided with extended emergency scenario training in the simulator, over a one week period. The Requalification program was also modified to require practice in a minimum of six extended emergency scenarios during each two-year cycle. All crews have received an additional scenario (as of June 1, 1992).

Action Planned:

Integrated emergency plan and plant management scenarios will be continued as a normal element of the Requalification program training. The installation of an audio system to further support the operating crew critique process in the simulator is planned for 1992.

Schedule:

Ongoing.

Adequacy of Results Achieved:

Increased proficiency of the crews during Emergency scenarios has been noted since the new scenarios have been implemented. The effectiveness of this training program upgrade will continue to be monitored and feedback provided to each operating crew.

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COOPER NUCLEAR STATION

Item No: A-6

Assigned To: R. Brungardt
Operations Manager

Description:

The method used for validation and verification of complex emergency operating procedures did not require a plant walkdown to ensure that the procedures could be performed as written.

Root Cause:

The station did not have a procedure in place which required the performance of plant walkdowns for the purpose of verifying technical accuracy and usability of complex emergency procedures. Specifically, Procedure 0.4, Preparation, Review, and Approval of Procedures was deficient by failing to establish criteria and provide guidance for the performance of plant walkdowns.

Action Taken:

Plant walkdown verifications of all Emergency and Abnormal Procedures was performed during Fall/Winter 1991/1992.

The results of this review concluded that all existing Emergency and Abnormal Procedures could be performed as written. Also, CNS EOP and EOP Support Procedure Verifications were performed the first quarter of 1992, and it was determined that these procedures were technically accurate and able to be used effectively. Lastly, in June 1992, the EOPs underwent EOP simulator validation and it was concluded that the EOPs are usable by the operator under dynamic accident conditions.

In addition, CNS Management directed the review and revision of Procedure 0.4. The revision establishes responsibility for performing plant walkdowns, applicability criteria, and provides an acceptance criteria checklist with sign-offs for the performance of plant walkdowns. The walkdown criteria is applied to all procedures by the responsible Department Supervisor. The Walkdown Checklist provides acceptance criteria in question format for written correctness, technical accuracy, and personnel usability. This action will ensure that future revisions to all procedures can be performed as written.

The above actions ensure that current procedures and future revisions to these procedures are adequately reviewed for technical accuracy and operator usability.

Action Planned:

CNS Management will monitor the effectiveness of the actions taken above and ensure that the provisions of Procedure 0.4 are being properly implemented. As a part of their review of proposed procedure revisions, they will ensure that plant walkdown criteria is applied when appropriate, and walkdown acceptance criteria is met prior to their approval for implementation.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: A-6 (Continued)

Schedule:

The Management review of plant walkdowns is an integral part of the review and approval process of proposed procedure revisions, and as such is an ongoing responsibility with no defined schedule.

Adequacy of Results Achieved:

The enhancements to Procedure 0.4 and the Management review to confirm proper implementation of those provisions have ensured that proposed procedure revisions receive plant walkdowns as appropriate in order to provide for their technical accuracy, written correctness, and usability. The expected results will be improved personnel performance of complex procedures, and a reduction in performance miscues attributed to procedural deficiencies.

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COOPER NUCLEAR STATION

Item No: A-7

Assigned To: R. Brungardt
Operations Manager

Description:

Safety evaluations for emergency procedures are being performed by the Operations Department in lieu of a multi-disciplined review.

Root Cause:

Procedural deficiencies. Procedure 0.22, Emergency Operating Procedure Maintenance Program, did not specify that a Radiological Department representative was to be a member of the EOP Maintenance Team. The CNS EOP Support Procedure Verification Instruction, specified by Procedure 0.22, did not provide requirements and instructions for Engineering and Radiological safety reviews of EOP Support Procedures.

Action Taken:

Procedure 0.22, Emergency Operating Procedure Maintenance Program (Rev. 4), was revised to add a Radiological Department representative to the EOP Maintenance Team. In addition, the CNS EOP Support Procedure Verification Instruction was revised to contain requirements and guidance for performance of safety reviews by both Engineering and Radiological Department personnel. The Engineering review addresses the use of EOP Plant Temporary Modifications and prioritization of various options within the procedures in terms of Engineering concerns. The Radiological review addresses procedural actions with regard to ALARA, shielding, and exposure concerns in light of potentially degraded plant conditions.

Action Planned:

A verification of EOP Support Procedures was recently completed using the guidance contained in the EOP Support Procedure Verification Instruction. The results of this Verification, and the need for any future revision of the EOP Support Procedures or the EOP Support Procedure Verification Instruction, will be discussed and documented at the next quarterly meeting of the EOP Maintenance Team. These actions are a direct result of the Action Taken items above. The implementation of multi-disciplined review is complete.

Schedule:

The requirement for additional revisions to the EOP Support Procedures or the EOP Support Procedure Verification Instruction will be determined at the next EOP Maintenance Team meeting. If additional revisions are deemed necessary, the completion date for this upgrade will be established by the team. Future multi-disciplined safety evaluations of emergency procedures will be performed as required by Procedure 0.22, EOP Maintenance Program.

Adequacy of Results Achieved:

The multi-disciplined safety review of emergency procedures, which is now required by the EOP Support Procedure Verification Instruction, has identified the potential need for additional changes to several EOP Support Procedures. These proposed changes will be discussed at the next quarterly meeting of the EOP Maintenance Team. The broad perspective of a multi-disciplined safety evaluation will continue to provide improved procedural guidance.

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Item No: A-8

Assigned To: R. Brungardt
Operations Manager

Description:

Independent valve verification is not adequately addressed by controlling procedures.

Root Cause:

Procedural deficiency; adequate guidance was not provided in Operations Department Policy Procedures to assure that Independent Verification would always be performed when required.

Action Taken:

An extensive review was performed of Procedure 2.0.1, Conduct Of Operations, Procedure 0.9, Clearance Orders and Caution Tags Orders, and Procedure 12.5, CNS Q. C. Functions. As a result of this review, it was determined that no policy guidance regarding independent verification existed in any of these procedures. Therefore, a Policy Statement was generated and added to Procedure 2.0.1.

Action Planned:

None; the above action taken provides adequate definition and direction for Independent Verification.

Schedule:

None.

Adequacy of Results Achieved:

The above actions appear to be adequate to clear up any misunderstandings or lack of guidance as to when and how Independent Verification is to be performed. There have not been any questions or missed verifications since taking the steps discussed above. CNS management will continue to monitor the effectiveness of this action.

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COOPER NUCLEAR STATION

Item No: A-9

Assigned To: R. Brungardt
Operations Manager

Description:

Operators demonstrated some weaknesses in the use of procedures when, on four occasions, the operators failed to issue a temporary procedure change when a procedure error was identified. In lieu of having a procedure available, the operators relied on memory to perform an evolution.

Root Cause:

The root cause for the weaknesses in procedure usage is the failure to initiate temporary or permanent procedure changes when known procedural deficiencies existed. A contributing cause for one of the events was the failure to issue a change to a procedure affected by a design change.

Action Taken:

Actions taken to address the subject weaknesses include the initiation of temporary and permanent procedure changes for the identified items, Operations Supervisor discussions with each crew stressing procedural compliance and the issuance of a letter from the Division Manager of Nuclear Operations to all CNS personnel concerning the maintenance of the accuracy and adequacy of station procedures. In addition, Engineering reviewed all outstanding design changes to ensure that required procedure changes have been implemented. The review also verified that existing Engineering Procedures adequately identify, track and implement procedure changes required by design changes.

Action Planned:

Management will continue to monitor procedure usage and compliance and ensure expectations are conveyed through administrative procedures, correspondence and discussions with plant personnel. A quarterly evaluation of events resulting from inattention to detail is performed by CNS Managers on a rotating basis. This evaluation entails a review and analysis of Inspection Reports, NCRs, LERs, QA findings, etc., generated during the previous six months which identify personnel error as a causal factor.

Schedule:

Management will continue to monitor procedure usage and compliance. Evaluations of events resulting from inattention to detail are conducted quarterly.

Adequacy of Results Achieved:

A review of LERs since the latest of the four occasions referenced shows no subsequent instances of failure to issue a temporary procedure change when a procedure error was identified.

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RADIOLOGICAL EXECUTIVE SUMMARY

Currently, a management directed radiation protection self evaluation is underway. The scope of this self evaluation will include not only station management's areas of concern, but also all concerns addressed in the current SALP report, such as radiological protection program implementation during routine, day-to-day activities and peak work loads.

We are particularly concerned with the violations that occurred during the 1991 refueling outage that were related to the proper placement of dosimetry on some of our radiation workers. Accordingly, the NRC can be assured that Health Physics and ALARA staffing levels will be evaluated against peak outage work loads. In addition, the ongoing self evaluation is placing special emphasis in the areas of ALARA and special work permit procedural requirements as compared to the current industry standard for excellence. We are confident that staffing to peak outage work load conditions and the upgrade in ALARA and Health Physic procedural requirements will eliminate these situations.

We pride ourselves in our well-established reputation for good communications, coordination and work control in the Radiological Department and were concerned that a contributing cause to the refueling outage event was a weakness in these qualities. Accordingly, we have directed the adoption of a contract technician team concept, whereby a CNS technician will coordinate and overview an assigned group of contract technicians. This will improve communications to station supervision and management and will allow us to promptly deal with any potential problem areas.

In summary, we recognize that the functional area of Radiological Controls requires focused management to improve implementation of the radiological protection programs at Cooper Nuclear Station. We believe that the completed actions and future plans discussed in these contents reflect our commitment to continuous improvement in this area.

1992 SALP ACTION PLAN FOR
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Item No: B-1

Assigned To: J. V. Sayer
Radiological Manager

Description:

ALARA personnel did not spend sufficient time in the radiological controlled area to evaluate proposed work or to observe work in progress, and ALARA staff involvement in mockup training for maintenance jobs involving significant radiological control problems was limited.

Root Cause:

The size of the ALARA staff was marginal for refueling activities.

Action Taken:

A CNS ANSI qualified Health Physics Technician was assigned to augment the ALARA staff during the remainder of the 1991 CNS Refueling Outage.

A review of ALARA staffing is included in the CNS Radiation Protection Program self assessment currently being conducted.

Action Planned:

Future scheduled outage work scopes will be reviewed in detail to determine sufficient ALARA staffing requirements. 1990 and 1991 CNS Refueling Outage ALARA staffing and the results of the self assessment ALARA recommendations will be utilized as a basis for this determination. Staff augmentation will be used to obtain additional ALARA staffing commensurate with the outage work scope and self assessment recommendations.

Schedule:

ALARA staff augmentation will occur approximately two to eight weeks prior to the scheduled outage start date.

Adequacy of Results Achieved:

ALARA staff numbers will be periodically re-evaluated during the outage to determine staffing adequacy. The CNS post-outage critique process will be used to formally evaluate outage ALARA staffing adequacy.

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Item No: B-2

Assigned To: J. V. Sayer
Radiological Manager

Description:

Radiological personnel failed to locate monitoring dosimetry properly on radiation workers.

Root Cause:

The root cause of this concern is the failure to provide adequate in-situ evaluation of radiological controls and requirements. The initial dosimetry placement requirement for the job that precipitated this concern was based on observing the insulator craft personnel's positioning and proximity during the full scale mock-up, and the pre-job dose-rate gradients determined in the field. The insulator craft were subsequently replaced by pipefitter and sheetmetal workers who claimed to have positioned themselves such that an unmonitored part of the body could have received the major portion of the job-related exposure. The Contract Health Physics Technicians assigned to this job failed to recognize and/or correct the dosimeter placement error, and did not convey the workers' claims to Health Physics Supervision.

Action Taken:

Temporary Procedure Changes to Procedure 9.1.1.4, Special Work Permit, have been made to ensure that task specific multiple dosimetry and dosimetry placement requirements are adequately addressed and allow for special radiological considerations and updates. This ensures that the radiation protection technicians have the ability to review the radiation protection requirements, in place, and make modification and revisions as required. Procedure Change Notices for Procedures 9.1.1.3, Personnel Dosimeter Program, and 9.1.1.4, Special Work Permit, that address these concerns are currently undergoing Station Technical Review.

Action Planned:

Procedures 9.1.1.3 and 9.1.1.4 are scheduled for SORC approval prior to July 1, 1992. Following approval, training will be provided to Radiological Department and other key station personnel in these revised procedures. These changes will be incorporated into Health Physics Technical Training following SORC approval.

Schedule:

Full implementation of revised Procedure 9.1.1.4 is scheduled with SORC approval. The aforementioned training will be accomplished by August 1, 1992.

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COOPER NUCLEAR STATION

Item No: B-2 (Continued)

Adequacy of Results Achieved:

Temporary procedure changes leading to the changes to Procedures 9.1.1.3 and 9.1.1.4 have been highly effective in providing task specific dosimeter placement requirements and have been highly effective in providing in-situ review and modification to in-progress radiation protection requirements. The full effectiveness of these procedural changes will be monitored during the 1993 refueling outage and, if necessary, additional procedural changes or guidance implemented.

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Item No: B-3

Assigned To: J. V. Sayer
Radiological Manager

Description:

Radiological personnel failed to specify multiple dosimetry on Special Work Permits during the outage.

Root Cause:

Inadequate procedure is the root cause of this concern, in that Procedure 9.1.1.4, Special Work Permit (SWP), did not require the update of the SWP form as the radiological conditions and monitoring requirements change. Additionally, SWP requirements were written in generic terms that did not provide adequate guidance in the use and placement of personnel dosimeters.

Action Taken:

Temporary Procedure Changes to Procedure 9.1.1.4 have been made to ensure that changing radiological conditions and monitoring requirements can be made to the SWP form in a timely manner, and that task specific multiple dosimetry and dosimetry placement requirements are adequately addressed. A Procedure Change Notice for Procedure 9.1.1.4 is currently undergoing Station Technical Review.

Action Planned:

Procedure 9.1.1.4 is expected to be SORC approved prior to July 1, 1992. Following approval, training will be provided to Radiological Department and other key station personnel in the use of the revised procedure and SWP form. These changes will be incorporated into General Orientation Training at the time of procedure approval.

Schedule:

Full implementation of revised Procedure 9.1.1.4 is scheduled with SORC approval. The aforementioned training will be accomplished by August 1, 1992.

Adequacy of Results Achieved:

Temporary procedure changes to Procedure 9.1.1.4 have eliminated this concern in that dosimeter assignment and placement have been made task specific, and in sufficient detail, to ensure that dosimetry requirements are addressed by radiation protection personnel during the preparation and implementation of the SWP. As stated above, permanent revision to this procedure is currently in the approval process.

1992 SALP ACTION PLAN FOR
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Item No: B-4

Assigned To: J. V. Sayer
Radiological Manager

Description:

Concerns were identified with the radiological programs and/or implementation activities when the Radiological Protection staff was stressed during the outage.

Root Cause:

Decreased communications and lack of sensitivity by contract Health Physics Technicians involvement in job coverage.

Action Taken:

The Division Manager of Nuclear Operations directed the Senior Manager of Operations and the Radiological Manager to conduct an evaluation of the CNS radiation protection program to determine whether significant communications, radiological controls, and radiological work coordination weaknesses exist in the program. This self evaluation is currently in progress and upgrades to the radiological program are being made.

Action Planned:

In future outages, teams of Contract Health Physics Technicians will be assigned to and will be directed by CNS Health Physics Technicians to cover long duration jobs or projects requiring significant radiological work control and coordination. Also, Radiological Coordinators between the craft contractor and the CNS Radiological Department will be assigned to work directly for the CNS Radiological Department. In the past these coordinators were directed by the craft contractor.

The team concept will ensure better continuity, responsibility, and accountability between Health Physics Technicians and Health Physics Supervisors.

Schedule:

The team concept is planned for the 1993 Refueling Outage.

Adequacy of Results Achieved:

The team concept practice worked well at CNS for the Reactor Recirculation Pump Upgrade and the Reactor Recirculation Pipe Replacement Projects and expectations are similar for the other outage projects. However, the effectiveness of these corrective actions will be monitored during the 1993 outage and, if necessary, further upgrades implemented.

1992 SALP ACTION PLAN FOR
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Item No: B-4-a

Assigned To: J. V. Sayer
Radiological Manager

Description:

Radiological personnel failed to provide adequate posting of Hot Spots during the outage.

Root Cause:

Procedure deficiency and personnel error are the root causes of this concern, in that Hot Spot posting criteria was not adequately proceduralized and, although the criteria for Hot Spot posting is provided during initial training, technicians failed to ensure several areas were posted during the 1991 Refuel/Repair Outage.

Action Taken:

Following a survey of Hot Spot Posting and Tracking Programs within the Region IV Power Reactor Facilities, Hot Spot posting criteria has been improved and relocated to Procedure 9.1.2.2, Area Posting - Radiological. This procedure change ensures that technicians remain familiar with the Hot Spot Posting criteria, and emphasizes the importance as an informative radiological posting. Identification of Hot Spots is also being provided on applicable SWPs. Procedure 9.1.2.2 was SORC approved on May 7, 1992. Additionally, CNS continues to be aggressive in elimination of Hot Spots to maintain radiation exposures and general area dose-rates ALARA.

Action Planned:

Review Contract Health Physics Technician and CNS Health Physics Technician Training Programs to ensure appropriate emphasis is given to Hot Spot posting.

Schedule:

The aforementioned Training Program reviews will be completed prior to August 1992.

Adequacy of Results Achieved:

CNS is currently posting Hot Spots in accordance with station procedure. The effectiveness of the actions taken will be evaluated periodically by detailed review of radiological survey data forms and Health Physics Log Book entries.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: B-4-b

Assigned To: J. V. Sayer
Radiological Manager

Description:

Radiological personnel failed to provide adequate Real Time tracking of exposures during the outage.

Root Cause:

Craft personnel failed to record their radiation exposures on the correct Special Work Permit (SWP) due to SWP procedural deficiencies. As a result, several instances of inaccurate real time exposure tracking were noted during the outage.

Action Taken:

1. A detailed review of the recently revised SWP procedure is included in the CNS Radiation Protection Program self assessment currently being conducted.
2. Automated real time exposure tracking has been incorporated into the Radiological Support System upgrade.

Action Planned:

1. SWP recommendations resulting from the CNS Radiation Protection Program self assessment will be used as a basis for further revisions to the SWP procedure.
2. Development, testing and implementation of automated real time tracking of exposures will be in accordance with the Radiological System Design Document specifications and schedules.

Schedule:

The CNS Radiation Protection Program Self Assessment report is scheduled for issuance by August 1992. SWP recommendations from the report will be incorporated into the SWP procedure by October 31, 1992.

The Radiological Support System automated real time exposure tracking is scheduled for testing implementation by January 1993. Formal implementation will be made following a testing duration of sufficient length to verify accuracy and adequacy of the system.

Adequacy of Results Achieved:

Automated real time exposure tracking has been incorporated into the Radiological Support System Design Document. Development and site testing of automated real time exposure tracking will be completed prior to the 1993 CNS Refueling Outage in order to validate the adequacy of the tracking system.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: B-4-d

Assigned To: J. V. Sayer
Radiological Manager

Description:

Drywell contract radiological protection technicians and CNS radiological personnel did not adequately coordinate work activities during the outage.

Root Cause:

The lack of direct CNS Health Physics Technician involvement in some outage jobs requiring significant radiological work controls and coordination, and the apparent lack of sensitivity by some Contract Health Physics Technicians to workers' concerns and apprehensions during the 1991 Refuel/Repair Outage have been determined as the root cause of this concern.

Action Taken:

Sensitivity to workers' concerns and apprehensions was emphasized to all Contract and CNS Health Physics technicians following the 1991 Refuel/Repair Outage incident that raised this concern.

Action Planned:

CNS will assign CNS Health Physics personnel to coordinate radiological coverage for all projects where communication and radiological controls are critical, thus providing direct overview by the CNS staff. Teams of Contract Health Physics Technicians directed by CNS Technicians will be assembled to cover long duration jobs requiring significant radiological work controls and coordination. This teamwork concept will be utilized as opposed to the practice of assigning Health Physics Technicians on a day-to-day basis. CNS will also continue to emphasize the need to maintain sensitivity and the need to respond to worker concerns to Contract Health Physics Technicians.

Schedule:

Currently in practice.

Adequacy of Results Achieved:

During the current, ongoing Fuel Pool Cleanup Project, technician teams have been assigned to cover this project on a continuous basis. The crew is changed by 1 CNS technician each week. This allows for consistent job coverage and communications, yet allows relief from repetition. The Plant Health Physics Technicians that have been assigned direct overview and evaluation for this project to date report that this concept has been successful. This change in philosophy cannot be fully evaluated until the 1993 Refuel/Repair Outage.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: B-5

Assigned To: J. V. Sayer
Radiological Manager

Description:

Ineffective management oversight during high activity periods such as an outage.

Root Cause:

Through lack of communication by contract Health Physics Technicians and failure to assess current radiological conditions on Special Work Permits (SWPs), management was not appraised of the noted radiological problems.

Action Taken:

The Division Manager of Nuclear Operations, subsequent to the identification of these concerns, directed the Senior Manager of Operations and the Radiological Manager to conduct an evaluation of the CNS radiation protection program to determine whether significant communications, radiological controls, and radiological work coordination weaknesses exist in the program.

The four SWPs noted in Inspection Report Items 91-10-15, 91-10-29, 91-10-44, and 91-10-77 were immediately corrected. All remaining active SWPs were reviewed to ensure that dosimetry requirements were being accurately identified. No additional SWPs required revision.

Action Planned:

Teams of Contract Health Physics Technicians will be assigned to and will be directed by CNS Health Physics Technicians to cover long duration jobs or projects requiring significant radiological work control and coordination. Also, Radiological Coordinators between the craft contractor and the CNS Radiological Department will be assigned to work directly for the CNS Radiological Department. In the past these coordinators were directed by the craft contractor.

The team concept and Radiological Coordinators will improve communications to management to keep them better appraised of any radiological concerns. A significant restructuring of the SWP program is being conducted to provide specific job coverage requirements, personnel monitoring requirements, and protective equipment and clothing requirements. These upgrades should significantly enhance controls over radiological work activities conducted at CNS.

Schedule:

The team concept is planned for the 1993 Refueling Outage.

Restructuring the SWP program will be completed by July 1, 1992.

Training of Health Physics technicians to the new program will be completed by August 1, 1992.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: B-5 (Continued)

Adequacy of Results Achieved:

The team concept will ensure better continuity, responsibility, and accountability between Health Physics Technicians and Health Physics Supervisors. The team concept practice worked well at CNS for the Reactor Recirculation Pump Upgrade and the Reactor Recirculation Pipe Replacement Projects. This methodology will assure that communication of any radiological concerns is brought to management's attention in an expeditious manner and will provide for improved management oversight abilities.

A SWP program is presently being restructured to achieve the following objectives:

- Facilitate a means to effectively correct human factor weaknesses, by providing a timely means for updating changes to radiological conditions, dosimetry requirements, job coverage requirements, and personnel entry requirements posted on the SWP.
- Provide a means of identifying task specific radiological control requirements for multiple tasks occurring within the same job.
- Incorporate a section on the SWP to document special considerations.
- Eliminate the use of generic terms such as "as required" by providing a means for specific delineation of job coverage, personnel monitoring, and protective equipment and clothing requirements.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: B-6

Assigned To: J. V. Sayer
Radiological Manager

Description:

Radiological Protection personnel resources are marginally adequate for outage control.

Root Cause:

Staffing in the Radiological Department during outages has historically been based on full work scope threshold requirements versus peak requirements. This has been highly successful in maintaining a motivated radiological production staff. Personnel shortages, although infrequent, have occurred during the peak outage schedule.

Action Taken:

A review of the 1991 outage reveals that Radiological Department staffing, the highest to-date at CNS, was adequate during the majority of the schedule. However, during peak schedule and stress periods a slight temporary shortage of radiation protection personnel may have existed.

Action Planned:

The 1993 outage work scope review for radiological staffing requirements will be upgraded. This review will take into account peak, as well as threshold, staffing requirements. Additionally, Radiological Department staffing throughout future outages will be monitored for changing conditions to maintain maximum productivity and to minimize stress on radiation protection personnel.

Schedule:

The Radiological Department Outage Staffing Plan will be developed by December 1992.

Adequacy of Results Achieved:

The adequacy and effectiveness of Radiological Department outage staffing will be evaluated during the 1993 Refuel/Repair Outage.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: B-7

Assigned to: J. W. Dutton
Training Manager

Description:

A second instance was identified in the failure to conduct semi-annual training of chemistry technicians on CNS Post Accident Sampling Systems.

Root Cause:

The root cause was failure to document the lapsed requalification training and the circumstances surrounding the lapsed training. An individual no longer requiring Post Accident Sampling System Training was allowed to let his training lapse without the appropriate supporting documentation to justify this inaction.

Action Taken:

A revision to CNS procedure 0.17, Selection & Training of Station Personnel, was approved on November 29, 1990. This revision requires specific documentation of all job specific requalification training deletions for personnel and the circumstances surrounding the lapsed training. This documentation will be approved by the cognizant station Department Manager and forwarded to the Training Manager.

Action Planned:

No further action is planned.

Schedule:

Action has been implemented.

Adequacy of Results Achieved:

No further problems of the nature described have been experienced.

The effectiveness of this program upgrade will continue to be monitored.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: C-1

Assigned to: M. E. Unruh
Maintenance Manager

Description:

Adequate controls to address cleanliness and housekeeping requirements for safety related maintenance activities were not established.

Root Cause:

21 - Procedural deficiency: Nonexistent

Action Taken:

Maintenance Work Practice (MWP) No. 5.1.3, Foreign Material Exclusion and System Cleanliness, was developed in December 1990. This MWP provides guidance to craft personnel for actions to be taken whenever a system/component is open to the environment during plant maintenance activities.

Action Planned:

MWP 5.1.3 is currently being revised to further include guidance for cleanliness/foreign material exclusion when working on plant electrical components. Additionally, procedures from several other plants are being reviewed in order to identify applicable guidance and good practices that should be incorporated into existing maintenance practices at CNS. MWP 5.1.3 will be revised as necessary to include this additional guidance.

Schedule:

MWP 5.1.3 will be revised to include additional guidance determined to be required from the review of various cleanliness procedures obtained from other nuclear facilities by October 31, 1992.

Adequacy of Results Achieved:

The adequacy of maintenance practices in this area will be monitored through field observation of routine maintenance activities during operation, and of outage related maintenance activities during the 1993 refueling outage. Further guidance will be provided to the craft as found necessary through additional revisions to MWP 5.1.3, Foreign Material Exclusion and System Cleanliness.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: C-2

Assigned To: J. R. Flaherty
Engineering Manager

Description:

A minor weakness in the labeling of containment building penetrations was identified.

Root Cause:

During an NRC review of containment building penetration labeling it was found that, with certain exceptions, penetrations were not labeled at the location where the piping meets the containment wall. However, in these cases, the associated piping components are labeled. As discussed later, this methodology was found to be the preferred and most effective method of labeling. The root cause of this minor weakness appears to be inadequate communication, in that the advantages of the existing method were not adequately provided to the NRC inspector.

Action Taken:

Several methods of containment penetration labeling were evaluated. Because of the various configurations and associated accessibility limitations, labeling the penetrations where the piping meets the wall was determined to be unfeasible, and potentially confusing. The existing method of labeling associated piping components was determined to be the most effective of the available options. This method is particularly suitable to leak rate testing where it is important to verify that the correct valves are being tested. Furthermore, recent as-building efforts provide a high level of confidence in the existing labeling.

Action Planned:

An engineering evaluation will be conducted to verify that the existing labeling has historically provided an accurate means of containment penetration identification.

Schedule:

The engineering evaluation will be complete by August 1, 1992.

Adequacy of Results Achieved:

The evaluations conducted to-date have verified that the existing methods are preferred and contribute to a high level of confidence that leak rate testing is properly conducted. However, any upgrades to the existing identification system as a result of the engineering evaluation will be implemented.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: C-3

Assigned To: M. E. Unruh
Maintenance Manager

Description:

Several minor instances of inattention to detail (failure to follow procedure or seek clarification).

Root Cause:

Root cause for these occurrences is attributed to procedural deficiencies and personnel error.

Action Taken:

Several actions have been taken to minimize and preclude recurrence of these instances of inattention to detail. Examples are discussed with Maintenance Department personnel during tail-gate training sessions, through routing of NCR, LER and QA Audit Finding responses, and through Industry Events Training. Maintenance Department personnel are also encouraged to utilize the procedure feedback system as a means to correct Maintenance Procedures that require revision or clarification. In addition, Station Management conducts a quarterly review of events that are a result of inattention to detail or failure to follow procedures. This review is conducted by evaluating Inspection Reports, NCRs, LERs and QA findings which identify personnel error as a root cause.

Action Planned:

Quarterly evaluation of events resulting from inattention to detail will continue to be conducted. Also, a self-checking program will be initiated for all station personnel that conduct hands-on work.

Schedule:

The self checking program will be implemented by December 1992.

Adequacy of Results Achieved:

The quarterly evaluations of events resulting from inattention to detail to date have identified the fact that the number of events resulting from inattention has declined steadily since 1988 (37 in 1988, 25 in 1989, 23 in 1990, and 15 in 1991). However, these evaluations have determined that the lack of adequate self-checking is a major contributor to events of this nature. Therefore, the previously mentioned self-checking program will be developed and implemented by December 1992. The effectiveness of this upgrade will continue to be monitored by the quarterly evaluations and if necessary, further upgrades implemented.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: C-4

Assigned To: J. R. Flaherty
Engineering Manager

Description:

Controls for Leak Rate Testing and In-service Testing/Measuring Test Equipment (M&TE) were weak.

Root Cause:

With regard to leak rate testing M&TE, it was determined that although engineering personnel were using appropriate practices for control of M&TE, the procedures being used for control of this equipment required enhancement to better reflect these practices. With regard to In-service Testing (IST) M&TE, two of approximately 85 IST instruments were found to have not been formally included in the M&TE Calibration Program. However, these instruments were being calibrated properly. Furthermore, the responsible engineering personnel were not fully aware of the importance of including these rigorous practices in the appropriate procedures. Two root causes were therefore assigned: (1) procedure less than adequate, and (2) training less than adequate.

Action Taken:

An engineering review determined that the existing practices, if formalized, exceed the requirements of 10CFR50 Appendix J, ASME and the applicable CNS QA documents. Additionally, the responsible personnel were reminded of the need to ensure that procedures accurately demonstrate and control safety related practices.

Action Planned:

Procedures controlling leak rate testing will be enhanced to include more extensive controls for leak rate testing M&TE.

The two noted IST instruments will be formally incorporated into the M&TE Calibration Program.

Engineering personnel, even those not associated with IST or leak rate testing, will be refamiliarized with CNS calibration program requirements.

Schedule:

Procedures controlling leak rate testing equipment will be revised by October 1992. The two IST instruments will be incorporated into the formal calibration program by July 1992. Engineering personnel will be refamiliarized with calibration program requirements by July 1992.

Adequacy of Results Achieved:

The results of the engineering review confirmed that existing practices for control of leak rate testing and IST instrumentation provided adequate assurance that no safety concerns existed.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: C-5

Assigned To: R. Brungardt
Operations Manager

Description:

Two examples of missed surveillance testing.

Root Cause:

The root cause of the missed surveillances were a deficiency in the computer-based surveillance scheduling system and personnel error. The scheduling system did not continue to list a missed surveillance beyond the week in which it was scheduled. Additionally, a personnel error by the Surveillance Coordinator resulted in the surveillance test packages not being provided to the performing organization at the time the tests were scheduled.

Action Taken:

The computer-based surveillance scheduling system was modified so that surveillances are now included in the weekly schedule until they have been performed. In addition, the Surveillance Coordinator was counselled on the need for accurate scheduling of surveillance tests.

Action Planned:

No further action is planned.

Schedule:

No further action is planned.

Adequacy of Results Achieved:

No surveillance tests have been missed since July 1990. The effectiveness of this program upgrade will continue to be monitored.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: C-6

Assigned To: R. Brungardt
Operations Manager

Description:

Some examples of failure to follow procedures and inattention to detail (while performing surveillance testing, minor events occurred that were reportable).

Root Cause:

The root causes for the events that occurred are procedural deficiency and personnel error. Procedural ambiguity and failure of personnel to seek further clarification contributed to the events.

Action Taken:

Actions have been taken to ensure that events such as those described above are adequately addressed. Correct procedure performance has been emphasized through personnel counselling, routing of LERs, Industry Events Training and correspondence from the Division Manager of Nuclear Operations addressing the issues of complacency and maintaining a questioning attitude. Identified procedural deficiencies have been corrected by procedure revisions. The need to seek clarification has been addressed in an Instrumentation and Control Guideline for Procedure Performance and Review. This guideline also addresses self-checking, completion of steps before continuing, receipt of unexpected vs. expected response, and the need to initiate procedure revisions where further clarification is required. In addition, a quarterly evaluation of events resulting from inattention to detail or failure to follow procedure is performed by CNS Managers on a routine basis. This evaluation entails a review and analysis of Inspection Reports, NCRs, LERs, QA findings, etc., generated during the previous three months which identify personnel error as a causal factor.

Action Planned:

Quarterly evaluations of events resulting from inattention to detail will continue to be conducted. In addition, a self-checking program will be implemented for all groups within the station that conduct hands-on work.

Schedule:

Evaluations of events resulting from inattention to detail are conducted quarterly. A self-checking program for personnel that conduct hands-on work will be implemented by December 1992.

Adequacy of Results Achieved:

The most recent quarterly evaluation of events resulting from inattention to detail noted that the total number of events has continued its downward trend for the past four years. Events associated with a failure to follow procedure are also included in this evaluation. The total number of events in 1991 decreased by approximately 29% from 1990 and 60% from 1988.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS EXECUTIVE SUMMARY

The last SALP report characterized this functional area stating that NPPD's "emergency preparedness program continued to maintain a good level of operational readiness for responding to emergencies." Problems encountered during the SALP period were primarily the result of a particularly challenging 1991 emergency exercise scenario that stressed the ability of the emergency response organization (ERO) and the apparent weaknesses of operating crews in performing emergency classification, notification, dose assessment and protective action recommendations during Simulator walk-throughs. The weaknesses observed in the operating crews were the result of inadequate training for licensed operators in these areas.

The weaknesses identified during the last SALP period are being aggressively addressed. Control Room and TSC command and control functions were reviewed during a comprehensive self assessment and improvements have been and continue to be made in enhancing this function during regularly scheduled emergency drills. Effective TSC and OSC operations are also being addressed during these drills. The effectiveness of exercise control and exercise evaluation functions is expected to improve substantially with the implementation of new, comprehensive procedures for these activities. The abilities of our operating crews to perform emergency classification, notification, dose assessment and protective action recommendation functions have been upgraded through enhanced training in these areas, which have been formally included in the licensed operator requalification training program.

Additionally, since the close of the previous SALP period, the CNS Emergency Plan has been implemented for three actual Notification of Unusual Events due to plant operating considerations. These emergency declarations were effectively managed and the Emergency Plan was effectively implemented with appropriate classifications and notifications performed.

Finally, in a continuing effort to enhance the overall performance of this functional area, the Nuclear Power Group Manager has established an Emergency Preparedness Task Force to review the effectiveness of the NPPD ERO, command and control functions, EP training, call-in procedures, previous findings and program deficiencies, exercises and drills. The Task Force will complete its review and report its findings and recommendations in July 1992.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: D-1

Assigned To: D. A. Whitman
Division Manager of
Nuclear Support

Description:

Weaknesses were identified that indicate minor programmatic concerns with regard to emergency preparedness.

Root Cause:

The 1991 emergency exercise was extremely challenging for the emergency response organization. As a result of the challenging nature of the exercise, new insights were discovered relative to the emergency preparedness program and potential program improvements.

Action Taken:

The specific weaknesses identified that indicated minor programmatic concerns have been addressed in responses to Inspection Reports 91-12 and 92-01. In addition an emergency preparedness task force has been formed to evaluate the overall effectiveness of our existing Emergency Plan, Implementation Procedures, and Emergency Response Organization and to recommend appropriate program improvements.

Action Planned:

The task force's recommendations will be evaluated for implementation in a further effort to increase the effectiveness and efficiency of the emergency preparedness program.

Schedule:

The task force is scheduled to publish its recommendations by July 1992.

Adequacy of Results Achieved:

Adequacy of the program improvements will be evaluated during the 1992 emergency exercise.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: D-2

Assigned To: D. A. Whitman
Division Manager of
Nuclear Support

Description:

Command and control were identified as being weak in the control room and in the technical support center after the emergency director had left the facility to go to the emergency operations facility.

Root Cause:

Command and control expectations were not clearly communicated to the control room and TSC organizations.

Action Taken:

Guidelines to clearly define the roles of Control Room personnel during emergency conditions were developed and promulgated. These guidelines address responsibilities for supervision, information focus and dissemination as well as overall operator conduct in the Control Room. EPIP 5.7.7 "Activation of TSC", and related procedures were reviewed and revised to address the specific examples of degradation in TSC performance stated in the weakness. In addition to the measures described above in response to this weakness, the District is conducting an in depth self assessment of Control Room and TSC response organizations, their command and control arrangements and the effective utilization of these organizations.

Action Planned:

The Emergency Preparedness training drills discussed in the response to exercise weakness 298/9112-01 will continue to be monitored to assure the effectiveness of both Control Room and TSC organizations.

The results of the command and control self assessment are being evaluated and factored into the Emergency Plan and EIPs to improve the overall performance of these facilities and the personnel assigned to them.

Schedule:

The drills will be completed by August 11, 1992. All applicable command and control recommendations resulting from the self assessment will be fully implemented prior to the 1992 Exercise except for the comprehensive Emergency Preparedness Job Task Analysis and related training program revisions, which will be completed by December 31, 1993.

Adequacy of Results Achieved:

Adequacy of program enhancements will be determined during the 1992 emergency exercise and additional improvements implemented as found necessary.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: D-3

Assigned To: D. A. Whitman
Division Manager of
Nuclear Support

Description:

A weakness was identified with technical assessments of accident conditions by the Technical Support Center during the 1991 exercise.

Root Cause:

The root causes for the weaknesses in technical assessments are:

- 1) A procedure for estimating core damage using methods other than post accident sampling results did not exist.
- 2) There was less than adequate communication between the TSC disciplines.
- 3) Procedures for repair/survey team reporting of plant radiological conditions to the TSC were less than adequate.
- 4) Human factors inhibited maintenance and communication of accurate system status.

Action Taken:

A method has been developed and proceduralized to estimate core damage using in-containment radiation monitors.

EPIP 5.7.7 "Activation of TSC" was revised to prompt the TSC Director to form a multi-discipline team, as required, to aid in assuring effective communication and technical assessment.

To provide more timely data relative to radiological conditions the HP technicians will report, by portable radio, to the TSC Chemistry Health Physics Coordinator significant radiation readings found during radiological surveys in the field.

To help focus assessment, and reduce errors in communicating system status, separate status boards for mechanical and electrical malfunctions have been established in the TSC.

Action Planned:

Enhanced TSC drills to emphasize technical assessment and the program enhancements have been scheduled for TSC staff members. These drills will include problems in core damage assessment, release path analysis, and timely communication of radiation survey results.

Schedule:

The TSC drills will be completed by August 11, 1992.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: D-3 (Continued)

Adequacy of Results Achieved:

Adequacy of results will be verified during the scheduled drills and the 1992 emergency exercise.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: D-4

Assigned To: D. A. Whitman
Division Manager of
Nuclear Support

Description:

A weakness was identified regarding poor coordination, control, and radiological practices of in-plant repair and survey teams deployed from the Operations Support Center.

Root Cause:

There was less than adequate procedural guidance for team dispatch, control, and safety.

Action Taken:

EPIP 5.7.15 "Rescue and Reentry", has been revised to implement a new mechanism for team tracking and control in order to enhance the coordination and control of in-plant repair and survey teams. The procedure revision also included assignment of responsibility for team safety and for required notification to the repair/survey teams of significant changes in plant conditions.

Action Planned:

The improvements contained in the above procedure change will be demonstrated during scheduled TSC drills.

Schedule:

The TSC drills will be completed by August 11, 1992.

Adequacy of Results Achieved:

Adequacy of results will be verified during the scheduled drills and the 1992 emergency exercise.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: D-5

Assigned To: J. V. Sayer
Radiological Manager

Description:

A weakness in the emergency operations facility was identified in the assessment of offsite radiological consequences of the release due to a failure to recognize that the release was unfiltered.

Root Cause:

Lack of attention to detail due to rapidly developing scenario events and conflicting plant system information.

Action Taken:

1. EPIP 5.7.17, Dose Assessment, and EPIP 5.7.7, Activation of TSC, have been revised to ensure that EOF decision makers correctly assess the status of the radiological release pathway through the Standby Gas Treatment System.
2. An Emergency Preparedness Task Force has been organized to perform a self assessment, and among its assigned areas to evaluate are:
 - a. The effectiveness of the ERO organization based upon today's standards (INPO/NRC).
 - b. Command and control of the ERO.
 - c. Training effectiveness and efficiency.
 - d. Previous NRC, INPO, and exercise findings.

Action Planned:

1. The revisions to EPIP 5.7.17 and 5.7.7 will be evaluated and critiqued during EP drills conducted in 1992.
2. The Emergency Preparedness Task Force final report is scheduled for issuance in July 1992. Any dose assessment recommendations resulting from this report will be used as a basis for further revisions to EPIP 5.7.17 and 5.7.7.

Schedule:

1. EPIP 5.7.17 and 5.7.7 were revised February 27, 1992. EP drills and exercises are periodically scheduled from May through September 1992.
2. The Emergency Preparedness Task Force final report recommendations will be prioritized and scheduled following the report's issuance in July 1992.

Adequacy of Results Achieved:

1. In-house critiques of the revisions made to EPIP 5.7.17 and 5.7.7 are being conducted during EP drills held in 1992 to determine effectiveness. Critique observations will be used as a basis for any further necessary revisions to EPIP 5.7.17 and 5.7.7.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: D-5 (Continued)

2. The Emergency Preparedness Task Force will continue to review the adequacy of the revisions made to EPIP 5.7.17 and 5.7.7 during drills and the 1992 emergency exercise to determine if further revisions are warranted.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: D-6

Assigned To: D. A. Whitman
Division Manager of
Nuclear Support

Description:

Several problems were noted with the preparation for the 1991 emergency exercise.

Root Cause:

There was less than adequate procedural guidance for exercise preparation and control.

Action Taken:

To strengthen the controller/exercise preparation, a specific procedure for controlling emergency preparedness exercises and drills was developed. This procedure addresses the functions of exercise control, the controller organization, and ensures that an adequate number of controllers will be available. It includes the limits on allowed simulation, controller scenario authority, appropriate responses to unanticipated scenario events, and a means to document controller actions when the scenario deviates from the planned scenario events. The procedure contains a section that includes the analysis of controller staffing, guidelines for simulation, and specifics on simulation.

Action Planned:

Training for exercise controllers on the improved procedure is scheduled to be completed prior to the 1992 exercise.

Schedule:

The procedure will be used throughout the course of 1992 exercise development and implementation cycle. Training for the controllers is scheduled for completion by September 15, 1992.

Adequacy of Results Achieved:

Adequacy of results will be verified during the 1992 emergency exercise.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: D-7

Assigned To: D. A. Whitman
Division Manager of
Nuclear Support

Description:

The 1991 Emergency Exercise self-critique process was weak in that it failed to identify several areas in need of corrective action.

Root Cause:

The root cause was determined to be less than adequate guidance in evaluating exercise performance.

Action Taken:

An exercise/drill evaluation procedure has been developed for evaluating exercise performance, based on the NRC Inspection Procedure 82-301, "Evaluation of Exercises for Power Reactors".

Action Planned:

An evaluator organization, separate from the controller organization, will be established with responsibilities for exercise evaluation only. It is expected that this arrangement will provide a more independent review of emergency response organization performance and enhance the objectivity and effectiveness of the post exercise critique.

Schedule:

The separate controller and evaluator organizations will be implemented prior to the 1992 evaluated exercise currently scheduled for September 22, 1992.

Adequacy of Results Achieved:

Adequacy of results will be verified during the 1992 emergency exercise.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: D-8

Assigned To: D. A. Whitman
Division Manager of
Nuclear Support

Description:

Walkthroughs with control room operators in January 1992 by NRC personnel identified weaknesses in the areas of emergency classification, notification messages, dose assessment and formulation of protective action recommendations.

Root Cause:

The root cause of the classification weakness was determined to be less than adequate training in EALs under dynamic conditions.

The root causes of the notification weaknesses were determined to be a procedure inadequacy and an incorrect task assignment.

The root causes of the dose assessment weaknesses were determined to be a procedure inadequacy; no procedural cues were available to guide operators with respect to core degraded or not degraded, and human miscue; and, the operator was aware that the core was degraded yet made an incorrect entry into the dose assessment program.

The root causes of the protective action weaknesses were determined to be a procedure inadequacy, the automatic Protective Action Recommendation for General Emergency was not specified as an immediate action, and human miscue, evacuating upwind sectors.

Action Taken:

Immediate corrective actions involved retraining the three operating crews observed by the NRC on the same scenario used during the inspection. The crews were also reevaluated, using the same format as NRC Inspection Module 82206, on a scenario similar to the one used in the original inspection. The immediate retraining and reevaluation of these crews were completed January 11-12, 1992, for the three operating crews that were evaluated during the inspection. Retraining and evaluation for the remaining three operating crews were completed prior to their resumption of shift duties. The completion date was January 17, 1992. Following completion of the above immediate corrective actions, enhanced dynamic simulator emergency response training for operating crews was implemented in the licensed operator requalification training program. All crews have currently received at least one cycle of this enhanced training.

EPIP 5.7.6 "Notification" was revised to streamline the notification form and to reassign responsibilities for completing the form. The responsibility to complete the form is now assigned to the Shift Communicator. The Emergency Director will be responsible for review and signature of the form.

1992 SALVATION PLAN FOR
COOPER NUCLEAR STATION

Item No: D-8 (Continued)

EPIP 5.7.17 "Dose Assessment" was revised to provide specific cues for the "core degraded" entry into the dose assessment program.

EPIP 5.7.5 "General Emergency" was revised to make the automatic baseline General Emergency PAR an immediate operator action.

Action Planned:

The Nebraska Public Power District plans to continue the dynamic simulator emergency response training as part of the licensed operator requalification training program. The emergency plan training has been incorporated into simulator training at a minimum frequency of six cycles per two year requalification period.

Schedule:

The corrective actions described that pertain to procedure revisions are complete. The corrective actions pertaining to operator training are included on a continuing basis in the licensed operator requalification training program.

Adequacy of Results Achieved:

The adequacy of the results will be verified by the evaluation of the operating crew's performance in the simulator and future emergency exercise drills and exercises.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

ENGINEERING/TECHNICAL SUPPORT
EXECUTIVE SUMMARY

The last SALP report characterized this functional area stating, "overall, the performance in this functional area was good . . . Ongoing concerns were identified with the licensed operator training program. It did not appear that management had adequately addressed the concerns identified during previous assessment periods."

Aggressive NPPD actions were taken with regard to the licensed operator training concerns expressed. Aggressive action continues. These actions include steps to enhance the interface between licensed operators and training personnel, strengthened evaluation and self assessment of training by line management, enhancement of training materials, enhancement of instructional techniques and effectiveness, and upgrade of operator emergency training. Additionally, a high priority has been placed on actions to assure Simulator fidelity. These efforts from initial evaluation are having the desired effect. Licensed Operator performance as observed in emergency drills has improved and three license candidates were recently successful in their license examinations.

Beyond licensed operator training, significant steps have been taken to enhance the overall training of NPPD's nuclear staff. These steps include training NPPD corporate design engineers to the same tech staff program standards as site engineers, rotation of plant personnel to training as instructors, conduct of in depth training for Quality Assurance personnel and specialized training for NPPD craft supervisory personnel as well as numerous other initiatives, all of which are being undertaken at the direction and oversight of a committed and involved nuclear management team.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: F-1

Assigned To: R. Brungardt
Operations Manager

Description:

Licensed Operator Training continues to need management attention and priority.

Root Cause:

Insufficient procedural guidance, weakness in the standards for operating crew command, control, and communications, and failure to convey operating philosophies resulted in operator training performance below management expectations.

Action Taken:

A root cause analysis was conducted of the performance difficulties observed during operator license examinations. This analysis and subsequent training evaluations identified several areas that require management attention.

Abnormal and emergency operating procedures were walked down to ensure that procedures can be performed as written. Accordingly, procedures associated with the reactor recirculation system and the AC and DC distribution systems were revised to provide more specific guidance.

Visits to other operating nuclear plants have been conducted by Operations Management and Supervision for the purpose of learning from industry experience in the areas of communications and command and control.

Expanded guidance on operating philosophy has been provided through enhanced written policies. Operations Instructions on Control Room Conduct and Operator Conduct During Training were revised to better convey Operations Management's expectations.

Operations Management currently performs weekly evaluations of operating crews during requalification training and periodic evaluations during hot license training. Operations Management ensures that expected standards of crew performance are maintained by making the final pass/fail decision. Management involvement in the evaluation and subsequent critique conveys Operations ownership of operator performance.

In addition to the weekly and periodic simulator evaluations performed, the Operations Manager and Operations Supervisor also observe a training session in one of the accredited Operations Training Programs each month. This requirement was promulgated per a recently issued CNS Policy Directive for the purpose of improving training feedback and monitoring.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: F-1 (Continued)

Action Taken: (Continued)

As an overview of the training function, Training Effectiveness Review Committees (TERCs) have been established. An Operations TERC, consisting of Operations and Training supervisory personnel, meets quarterly to assess training effectiveness of operations personnel. A Management TERC, consisting of the Division Manager of Nuclear Operations, CNS Managers, Senior Managers and the Training Manager meets semi-annually to assess training effectiveness on a plant wide basis.

Periodic Operations line management/Shift Supervisor breakfasts have also served as an excellent forum to convey management philosophy and concerns and to solicit feedback. Examples of recent topics include the STA's role during emergency conditions, the Shift Supervisor's responsibility for operators in training, simulator performance weaknesses, the operations communications instruction, and command and control.

Action Planned:

To further ensure that expected standards of performance are adequately conveyed, a new policy on control room command and control will be issued and the current operations communication instruction will be revised.

Operator training will continue to receive management attention through simulator evaluations, training observations, and Training Effectiveness Review Committees. Weakness identified will be pursued through resolution.

Schedule:

A new policy on crew command and control will be issued and a revision to the current operations communication instruction will be completed by September 1992. Other forms of Management attention to Licensed Operator Training, as described above, are an ongoing process.

Adequacy of Results Achieved:

As a result of the most recent NRC administered exams, three licenses were issued and two requalification reexamines passed. There were no examination failures and no generic weaknesses or findings were observed. Continued evaluation and feedback from the program enhancement described will be used to monitor effectiveness of the actions taken.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: F-2 Assigned To: R. E. Wilbur
Division Manager of Nuclear
Engineering & Construction

Description:

Weaknesses were noted in the Design Change Program relative to safety evaluations and a lack of documentation to verify the environmental qualification of replacement conduit seal assemblies.

Root Cause:

The Safety Evaluation for DC 90-275 did not contain sufficient detail to assure the NRC Inspector that this change was not an unreviewed safety question. During NRC Inspection 91-23, the NRC Inspector performed a review of DC 90-275 and its Safety Evaluation. The inspector was of the opinion that the addition of a relay in the Diesel Generator starting circuit caused an increase in the probability of a malfunction of equipment and, therefore, was an unreviewed safety question requiring prior NRC approval. This was documented as open item 91-23-02.

Action Taken:

At the time of the inspection, DC 90-275 had been implemented for one Diesel Generator. Pending further review by and discussions with the NRC, NPPD decided to write a DC Amendment to restore the modified starting circuit to its original condition and cancel modification of the other DG's starting circuit.

After Inspection Report 91-23 was issued, extensive discussions were held between NRC Region IV Staff, IRR Staff, and NPPD concerning the modification and its safety impact. Based on the guidance provided by NSAC 125 and additional details provided to the NRC about the modification, it was agreed by the NRC and NPPD that the modification would not cause an unreviewed safety question.

The safety evaluation for DC 9-275, at Senior Management's direction, has been reviewed and revised to include additional detail to further justify that the change does not present an unreviewed safety question.

Action Planned:

The revised safety evaluation is scheduled for SORC review in July, 1992.

DC 90-275A will be implemented during the 1993 Refueling Outage.

Schedule:

SORC review of DC 90-275A is scheduled to be completed in July 1992 and implementation of the DC is planned during the 1993 Refueling Outage.

Adequacy of Results Achieved:

Open Item 91-23-02 has been closed.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: F-3

Assigned To: R. E. Wilbur
Division Manager of Nuclear
Engineering & Construction

Description:

The NRC conducted an Electrical Distribution System Functional Inspection. The inspection report indicated that "program weaknesses involving inappropriate design inputs used in engineering calculations in both the electrical and mechanical areas were identified. Most of the design calculation problems were considered to be minor and did not affect the validity of the calculation."

Root Cause:

Lack of readily accessible design basis documentation for use by the design engineers. Due to the age of the plant, many of the original design calculations and their supporting information is not available.

Action Taken:

The discrepancies found by the EDSFI inspection team were addressed by the Licensee. Additional calculations and analyses were performed to show that the system's performance was acceptable. A detailed review of the EDSFI inspection report was made to identify all concerns by the NRC inspectors and any calculations that needed further attention. Identified items were listed on the Nuclear Power Group Action Item Tracking System; action has been assigned and each item is tracked to completion.

Action Planned:

In addition to the upgrade of specific calculations, the Design Criteria Document for the Electrical System is scheduled to be generated in 1992 by the Design Basis group.

Schedule:

Items still remaining open on the EDSFI inspection have specific completion dates assigned based upon priority. The longest lead time item is the purchase of the electrical system software program DAPPER which will be used to model the CNS electrical systems. This program is scheduled to be in place by December 1992. It will then be verified and validated for essential application by a consultant.

In addition, work on the Electrical System Design Criteria Document is scheduled to start in June 1992 and be completed by December 1992.

Adequacy of Results Achieved:

The EDSFI inspection has shown that the electrical design of CNS is adequate. The identified deficiencies in the calculations to substantiate this are being completed in a prioritized fashion. The generation of the Electrical System Design Criteria Document will further enhance the design engineers' ability to retrieve the required data in a timely fashion.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: F-4 Assigned To: R. E. Wilbur
Division Manager of Nuclear
Engineering & Construction

Description:

Omission of water hammer considerations in design calculations of the Service Water (SW) System was considered significant.

Root Cause:

A water hammer analysis of Service Water Systems was apparently not completed at the time CNS was designed/constructed. Studies performed after CNS was licensed indicated a water hammer event could occur in a low energy system such as service water. Later editions of the CNS Piping Design Code (B31.1) specifically called out water hammer as part of the design analysis. A water hammer analysis of the Service Water System was apparently not a licensing requirement for CNS and, therefore, was not performed or recognized as being required by engineering.

Action Taken:

A thermal-hydraulic analysis of the SW System was completed and provided forcing functions suitable for a time-history ADLPIPE Analysis. The ADLPIPE Analysis was performed in-house and verified the SW System would remain operable after a worst-case water hammer event. In addition, Design Change Procedure 3.4.2 has been revised to ensure any future changes to the SW system do not adversely impact the water hammer analysis.

Action Planned:

No modifications to the service water system are required. Other essential cooling water systems were evaluated and are not considered susceptible to a water hammer event. These systems are closed loop systems that are kept full of water and do not drain due to a pump trip/loss of offsite power.

Schedule:

An NRC commitment to complete the analysis by May 1, 1992, has been met.

Adequacy of Results Achieved:

The CNS Service Water System Water Hammer Study has shown the system will remain operable after a worst case event (i.e., four pumps running at design flow, one RHR Hx in service, Low river level). All piping and supports are capable of withstanding the event. Therefore, the current SW System configuration is adequate and no modifications are anticipated at this time.

Changes made to the Design Input Guide (Procedure 3.4.2) are considered adequate to keep the analysis current and ensure future modifications do not adversely affect the results of the water hammer study.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: F-5

Assigned To: R. Brungardt
Operations Manager

Description:

Problems associated with post maintenance testing of RWCU System were noted.

Root Cause:

Procedures less than adequate. While lining up to perform post-maintenance testing, insufficient throttling of the filter/demineralizer bypass valve allowed flow from both RWCU pumps to exceed the setpoint of the RWCU high flow isolation switch. The cause of the insufficient throttling of the bypass valve was the lack of procedural guidance under these system operating conditions.

Action Taken:

System Operating Procedure 2.2.66 "Reactor Water Cleanup" has been revised to require use of local rack mounted system flow indication when starting a second RWCU pump with RWCU filters not in service. Guidance is provided which specifies the maximum system flow allowable prior to starting a second pump. In addition, the procedure also specifies that if both filters are in service, one filter must be removed from service before a second RWCU pump may be started.

Action Planned:

The above actions provide assurance that no further RWCU high flow isolations will occur due to performance of similar post maintenance testing. However, the CNS Technical Staff will monitor and track any NCRs generated due to any other unidentified RWCU procedural deficiencies.

Schedule:

Normal station operations and corrective action programs will provide continuous monitoring of RWCU system performance and the implementation and tracking of any necessary corrective measures.

Adequacy of Results Achieved:

No unplanned RWCU system isolations have occurred as a result of high flow conditions since the approval of the revision to the System Operating Procedure on March 19, 1992.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: F-6

Assigned To: J. R. Flaherty
Engineering Manager

Description:

One instance of failure to document resolution of a test discrepancy by a system engineer was identified.

Root Cause:

This weakness became evident when an observed reading of a non-acceptance criteria parameter was outside the range specified in a surveillance procedure. The system engineer, present during the test, evaluated the reading and determined that associated equipment was not adversely affected. He informed the operating crew accordingly. The engineer then confirmed his evaluation with the vendor. Although the engineer's actions demonstrated aggressive technical involvement in the surveillance testing program, the engineer neglected to document his resolution on the procedure.

A multi-departmental evaluation was conducted to determine the root cause and appropriate corrective action. The evaluation determined that existing procedural guidance neither required nor assigned responsibility for documentation of resolutions to discrepancies that did not adversely affect equipment operability, even though these resolutions were routinely being performed. This resulted in inconsistent documentation of said resolutions.

Actions Taken:

The station procedure that overviews the CNS surveillance program was enhanced by revising sections specifying the responsibility for, and mechanism of, resolving discrepancies. Included in these responsibilities are those of the System Engineer and the Surveillance Coordinator. A form has been included which documents the identification and resolution of all discrepancies.

Furthermore, the importance of documenting resolutions to surveillance procedure discrepancies was reiterated to the responsible engineering personnel.

Action Planned:

Additional enhancements to surveillance procedures are continuing as part of an ongoing program to maximize the clarity and effectiveness of these procedures. Steps that require data collection are being revised to differentiate between criteria that demonstrates operability and data used for other purposes, such as performance trending.

Schedule:

Completion of the surveillance program procedure enhancement (approximately 180 procedures are scheduled for enhancement) is scheduled for December 1992.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: F-6 (Continued)

Adequacy of Results Achieved:

Revision of the surveillance program overview procedure has greatly improved the consistency and timeliness with which resolutions to discrepancies are evaluated and documented. The effectiveness of this program enhancement will continue to be monitored.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: F-7 (Continued)

Schedule:

Complete identification of ways to improve the program by September 1, 1992.

Adequacy of Results Achieved:

Communications between operations and training personnel have been strengthened by the measures taken. Additional improvement will be closely monitored in the future through Operations/Training Coordination meetings, Training Effectiveness Review Committee and Management Training Effectiveness Review Committee meetings and Supervision/Management attendance of the training programs.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: F-8

Assigned to: J. W. Dutton
Training Manager

Description:

Many of the initiatives for improving the Operator Training Program are overdue. The first revision to the job task analysis was not initiated until after June 1991. This delay contributed to a prolonged period of poor learning objectives, inadequate lesson plans, and a poorly defined training cycle content.

Root Cause:

This comment appears to have originated from IR 91-16. However, the SALP report comments are somewhat misleading as to the status of the first revision to the job task analysis.

The Operator analysis actually began in January of 1990, with a job survey to determine the site specific task list. This project was initiated as an augmentation to the INPO analysis. The site-specific task list (Revision 0) was approved on 5/15/90. Analysis of these tasks was begun, and continues today as new tasks are identified. The analysis of the task inventory identified on 5/15/90 was completed on 4/15/91. The verification process to validate this analysis began in May of 1991, and is continuing. This validation process is very time consuming and would be better performed by NPPD personnel, and consequently is a slow process. The final result of the validation will be tasks linked to objectives in the training materials.

The overall goal of the JTA project was to verify that the training in this area is effective. Current training is being conducted based upon the requirements of the NRC, as interpreted by the K&A catalog and the NRC Examiners Standard. We believe, however, that we may be over-training in some topics and under training in others, but cannot demonstrate this until the project is completed and the analysis is evident. The current training cycle content is well defined and, as discussed previously, conforms to NRC and INPO standards.

Inspection Report 91-16 stated, in paragraph 1 of section 2.2.2 (page 6) that "Learning objectives were generally well constructed. Conditions and standards were generally implied in those cases where they were not stated." The report goes on to state that, as previously discussed, the objectives were not linked to tasks, with the exception of simulator exercises and JPMs. These training elements were linked to tasks; the linkage missing is in the classroom settings.

Although objectives exist for all lesson plans, objectives for the classroom lessons have not all been demonstrated to pertain to tasks from the site-specific task list. This effort is in progress and will be expedited.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: F-8 (Continued)

Action Taken:

The job task analysis is in progress and will link tasks to objectives in the training materials. It is expected that this extensive effort will provide for a more efficient and effective operations training program.

Action Planned:

Complete the job task analysis validation.

Schedule:

JTA validation is scheduled for completion in March 1993.

Adequacy of Results Achieved:

The adequacy of results will be determined based on enhanced, continuing overview provided by plant and training management, instructors, and students through the training evaluation process, and continued overview by INPO and NRC inspections.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: F-9-a

Assigned to: J. W. Dutton
Training Manager

Description:

Ineffective management assurance of quality in the area of Licensed Operator Training is evident. Priority for completion of development and implementation of Training programs has not been present.

Root Cause:

Although we do not fully agree with the NRC conclusion that management assurance of quality and priority in the area of Licensed Operator Training has been ineffective, numerous improvements and accomplishments have been achieved in this area and the groundwork for further improvement in performance has been laid.

Action Taken:

Numerous improvements in the Licensed Operator Training program have been implemented. The following achievements/enhancements have occurred:

- During this SALP period five RO licenses and six SRO licenses were earned.
- The CNS requalification program was judged by the NRC to be satisfactory.
- Achieved INPO reaccreditation of all Operations Training Programs.
- Achieved full Operations Training Department staffing without the use of consultants (14 positions).
- Established a program to rotate four licensed operators to Operations Training as instructors.
- The Control Room Simulator was certified.
- Implementation of Training Effectiveness Review Committees.
- Line Management/Supervision involvement in prospective licensed Operator evaluations and milestone progress reviews.
- Management review and approval of Licensed Operator Training Program and course material.
- The 1991 Annual Requal post-critiques between management and licensed operators.
- Management involvement in review and enhancement of Emergency Plan training to use mini-drills and the site-specific simulator.
- Completed a Quality Assurance assessment of Training.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: F-9-a (Continued)

- Established Lead Licensed Operations Instructor positions to provide career progression, and increased supervisory overview of training activities.
- Established SRO certification program and accompanying bonus to provide better utilization of instructors.
- Dropped excess SRO/RO licenses to allocate training resources more effectively.
- Management support for high priority improvement of simulator fidelity and use of the simulator as a training tool.
- Enhanced post-critique methods resulting in a more effective tool to improve operator performance.
- Weekly meetings between each crew Shift Supervisor and the Training Department Lead Requal Instructor have been implemented to discuss the crew's performance, training feedback and future training needs.
- Established policy to increase line management observation/overview of the Training Programs and provide feedback to the TERC committees for evaluation and improvement of training.

Action Planned:

Plans are to continue with existing process of oversight and efforts to improve Licensed Operator Training and to upgrade the program appropriately. In addition, installation of an audio-visual system in the Simulator is planned to improve training feedback to operators.

Schedule:

Continuing.

Adequacy of Results Achieved:

The most recent operator licensing examination resulted in all applicants (1 SRO, 2 ROs) passing the exam. Future results will continue to be closely monitored through the increased monitoring of training activities by station management and supervisory personnel.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: F-9-b

Assigned to: J. W. Dutton
Training Manager

Description:

Several aspects of the Training Program remain undeveloped or unclear, such as simulator time provided to operators, and use and quality of job performance measures.

Root Cause:

The amount of simulator time to be provided to the operators has been defined. The goal of the requal program since the CNS simulator was delivered was to provide 16-20 hours of quality simulator time to each operator in each requal cycle, resulting in approximately 100 hours of simulator time for each licensed operator per year. This goal has been communicated to supervision and instructors responsible for this activity.

Job Performance Measures (JPMs) have been the focus of a continuing effort to develop and implement high quality instruments. The use of JPMs as an evaluation method is a relatively new technique that has continued to develop into a viable training technique.

Action Taken:

No further action is necessary for the simulator time provided to operators. Job Performance Measures have been upgraded, and JPM use has been incorporated in the Requalification program.

Action Planned:

Continue maintenance and development of JPMs.

Schedule:

Ongoing.

Adequacy of Results Achieved:

Feedback from the lead examiner during NRC initial examinations held in May 1992 indicated that JPM quality is satisfactory. However, this activity will continue to be monitored, and deficiencies identified and upgraded accordingly.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: F-10-a

Assigned To: R. E. Wilbur
Division Manager of Nuclear
Engineering & Construction

Description:

An RWCU System actuation occurred during the implementation of a design change because the design engineer failed to consider the impact of lifting leads.

Root Cause:

1. Incorrect procedure information.
2. Inadequate design review.

Action Taken:

1. The design engineer immediately reviewed the design change for similar situations and addressed them where applicable. There were no subsequent occurrences of this problem as a result of this review.
2. Industry Events Training on this subject was provided to design and system engineers.
3. The DC Writers Guide has been updated to address working in sensitive areas.

Action Planned:

All planned actions have been completed as indicated in the above "Action Item" section. These actions will aid in precluding similar situations from occurring in the future.

Schedule:

Complete.

Adequacy of Results Achieved:

Results of the effectiveness of the actions taken will be monitored in future modifications.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: F-10-b

Assigned To:

R. E. Wilbur
Division Manager of Nuclear
Engineering & Construction

Description:

Inadequate assessment of the implementation of a design change package and working in sensitive areas resulted in RWCU System actuation.

Root Cause:

1. Standards, policies and controls less than adequate.
2. Procedure not followed.

Action Taken:

1. The subject DC (87-015MF), along with other 1991 Outage DCs involving work in sensitive areas, had additional reviews performed by senior staff engineering to identify other potential sensitive areas. Where able, circuits were de-energized to further reduce the risk factor.
2. OSC #28 to DC 87-015MF was written to provide additional guidelines while performing electrical tasks around energized circuits.
3. All Craft personnel involved in the project were assembled and addressed regarding the importance of following procedures.
4. Prior to beginning work on the remaining work packages in the subject DC, Craft were required to walk the package down and review the package for points of confusion or discrepancies and notify their field coordinator if necessary.
5. The Design Change Writers Guide has been updated to address working in sensitive areas.
6. Industry Event Training on this subject was provided to design and system engineers.

Action Planned:

Attention to detail discussions stressing the importance of understanding the procedures, following procedures and cautions of working in sensitive areas will be conducted with craft personnel before starting modification jobs.

Schedule:

Complete.

Adequacy of Results Achieved:

The long term results of the effectiveness of these program enhancements will continue to be closely monitored.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: F-10-c

Assigned To: R. E. Wilbur
Division Manager of Nuclear
Engineering & Construction

Description:

Several incidents indicated inherent design problems in the RWCU System.

Root Cause:

A 3/4" subcooling line was installed to eliminate flashing in the pump suction piping, which damages the pumps and causes a Group III isolation due to apparent high flow at the excess flow element. A manual globe valve (RWCU-V-395) was installed for flow control and shutoff and a check valve (RWCU-CV-17CV) was installed to prevent backflow.

The root cause is failure to anticipate all system operating modes when designing the RWCU subcooling line per DC 89-256. The small differential pressure across the RWCU subcooling line check valve when the RWCU pumps are secured was not considered during the design process. This allowed hot water to backflow through the check valve which causes a RWCU high temperature isolation of the Primary Containment Group III valves due to the physical arrangement of the temperature element. The metal seat piston type lift check valve that was installed requires a much higher differential pressure (500 psi) to obtain a leak tight shutoff.

Action Taken:

A procedure change is in routing for approval and, when implemented, will require that the RWCU subcooling line isolation valve (RWCU-V-395) be closed except when RWCU pump(s) are in operation during reactor cooldown. Also, the design change process procedural requirements were revised to require a detailed statement of all anticipated modes of operation during the conceptual design phase. This information will be taken into account prior to purchasing materials to avoid this type of situation in the future.

Action Planned:

EWR 91-132 was generated to enhance the RWCU subcooling. The EWR proposes, in part, that an air-operated valve be installed to automatically isolate the RWCU subcooling line when the RWCU pumps are secured.

Schedule:

EWR 91-132 is currently scheduled for the 1994 Refueling Outage.

Adequacy of Results Achieved:

The design change process revision to verify all modes of plant operation during the design phase is in effect and will be used for generation of design changes scheduled for the 1993 Outage.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

SAFETY ASSESSMENT/QUALITY VERIFICATION
EXECUTIVE SUMMARY

The last SALP report characterized this functional area stating that "licensee management provided good assurance of quality. A significant issue involving a relatively high threshold for items to be documented by a nonconformance report was identified which indicated management has not always been proactive in identifying potential safety issues. Management assurance of quality in the area of licensed operator training, radiological controls and licensed operator performance on the simulator were identified as weaknesses."

NPPD has taken several steps to address the concerns expressed in this functional area, and improvement continues. A lower threshold deficiency reporting system is under development which will further ensure we capture items of potential safety significance. An aggressive Operations Training program has been initiated for Quality Assurance personnel and a plant radiological technician has been rotated to the CNS Quality Assurance Department. These measures are expected to strengthen the ability of Quality Assurance personnel to effectively audit the operations, operations training and radiological protection functions. In addition to these measures, a self assessment program has been established to review the effectiveness of functions in which management desires to place additional emphasis. Self assessments have been or are in the process of being conducted in the emergency preparedness, radiological protection and corporate safety review and audit functions. In order to further develop and enhance the performance in this area, NPPD participates regularly in technical exchange of QA auditors and plant personnel with other utilities.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: G-1

Assigned To: C. M. Estes
Acting Senior Manager
of Operations

Description:

Management oversight and involvement in the areas of radiological protection, licensed operator training, and the performance of operational crews on the simulator need further attention.

Root Cause:

Senior management expectations were not previously communicated adequately to line management and supervision.

Action Taken:

Senior management has taken several actions to enhance oversight, involvement, and communication to line management and supervision. In the area of radiological protection:

1. The Radiological Manager has successfully completed the Senior Licensed Operator certification program. This training has provided the Radiological Manager with a broadened perspective of plant operation which will enhance his ability to effectively communicate management's expectations to departmental personnel.
2. Trending reports and reports detailing out-of-limit conditions are being developed within the radiological and chemistry departments and provided to management on a weekly basis. Conditions requiring management feedback are discussed at the weekly manager's staff meeting.
3. Management and supervisory personnel are giving increased attention to the adherence to and implementation of established radiological work practices when performing plant tours.
4. Senior management has expanded their daily Control Room tours to include the health physics and chemistry offices. These tours encompass a review of the logs as well as an assessment of the physical conditions of the office and equipment.
5. Performance appraisals for station health physics personnel have been expanded to include radiological work practices.

In the areas of operator performance, operator training, and simulator training, the following actions have been taken:

1. Operations supervisory and management personnel attend a monthly "breakfast". This informal setting has proven effective in opening a two-way line of communication between operations personnel and senior management.
2. Operations personnel recently completed a Control Room Teamwork Development Training course developed by the National Academy For Nuclear Training. The training sessions included personnel from the operations management.
3. The Shift Supervisor has been included in the daily briefings with senior management.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: G-1 (Continued)

4. Individuals from senior or operations management are included as observers for evaluated simulator scenarios.
5. CNS Directive 54, Management Overview of Training and Evaluation Activities, has been implemented. This Directive requires management personnel to periodically sit in on and critique the training provided to their department. Although developed primarily for licensed operator training, this program has been implemented for all training programs.

Action Planned:

Periodic departmental evaluations and self assessments will be conducted to assess the effectiveness of management oversight and involvement in communicating management's expectations to line management and supervisory personnel. Specifically:

1. To assess plant operations, quarterly evaluations will be conducted per Procedure 2.0.8, Operations Department Performance Assessment Program.
2. To assess operator and simulator training, monthly evaluations will be conducted per CNS Directive 54, Management Overview of Training and Evaluation Activities.
3. To assess radiological protection, a self assessment is currently under way. This self assessment will include an evaluation of supervisory feedback.

Schedule:

Evaluations conducted per Procedure 2.0.8 and CNS Directive 54 are ongoing. The radiological self assessment is currently scheduled for completion during 1992.

Adequacy of Results Achieved:

As a result of actions taken to date, management oversight and involvement in the noted weak areas has been significantly increased. This increased oversight and involvement has opened channels of communication which has enabled senior management to effectively communicate expectations to line management and supervision. The programs and self assessments implemented will ensure that progress in this area is monitored on an ongoing basis.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: G-2

Assigned To: V. L. Wolstenholm
Division Manager of
Quality Assurance

Description:

In some cases, the assessment of processes by QA audits lacked scope and depth in that the audits did not routinely verify all of the programs/systems used to document and disposition identified problems were sufficiently comprehensive.

Root Cause:

Inadequate scope of Quality Assurance Plan 2300.

Action Taken:

Revision of QAP-2300 (Revision 1 approved June 8, 1992) to ensure comprehensive coverage of the functional area of Corrective Action.

Action Planned:

No additional action is planned. The action stated above was initiated immediately following completion of NRC Inspection Report 91-19 (Darwin Hunter) - action is complete.

Schedule:

Action was completed June 8, 1992.

Adequacy of Results Achieved:

In addition to the QA Plan revision, its associated audit checklist has been revised to increase the scope and depth of the audit. A subsequent audit is scheduled to begin this month (June 1992) utilizing the new Plan and Checklist.

As an additional comment, it is acknowledged that the pending revision to the Station's corrective action program (due September 1992) will necessitate consideration for an additional revision of the QA Plan and audit checklist, once implemented.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: G-3

Assigned To: D. A. Whitman
Division Manager of
Nuclear Support

Description:

Some weaknesses in self assessment in the area of Emergency Preparedness were identified.

Root Cause:

The root cause was determined to be less than adequate guidance in evaluating exercise performance.

Action Taken:

A procedure has been developed to improve the drill/exercise critique. This procedure was based on NRC Inspection Procedure 82-301, Evaluation of Exercises for Power Reactors. Dynamic simulator training on emergency preparedness scenarios, similar to those conducted during the 82-701 inspection walkthroughs, has been included in the operator training program.

Action Planned:

The enhanced drill/exercise critique process will be used throughout the course of the year. The emergency plan training will be incorporated into simulator training at a minimum frequency of six per two-year requalification period.

Schedule:

The initial round of dynamic simulator training will be completed by July 1, 1992.

Adequacy of Results Achieved:

The adequacy of the results will be determined by the evaluation of the operating crew's performance in the simulator and subsequent to the 1992 emergency exercise.

1992 SALF ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: G-4

Assigned To: C. R. Moeller
Technical Staff Supervisor

Description:

Significant weakness in the licensee's corrective action process was identified in that a relatively high threshold exists for requiring items to be documented in a nonconformance report.

Root Cause:

Programmatic Deficiency. The Nonconformance Program was originally established to meet 10CFR50 Appendix B requirements and to document reportable events. As such, conditions or events of lesser significance were not, in all cases, adequately documented or evaluated. Since conditions or events of lesser significance could be precursors to more significant conditions or events, a programmatic weakness (or deficiency) is considered to exist.

Action Taken:

Corrective action program procedures from several other nuclear utilities have been obtained and are currently under review by the technical staff. The necessary programmatic upgrades are being identified.

Action Planned:

A lower threshold nonconformance reporting system is being developed. The program enhancement will be implemented through a revision to Procedure 0.5.1, Nonconformance And Corrective Action. Once implemented, program adherence will be monitored to ensure that all conditions or events requiring a nonconformance report are documented.

Schedule:

The revision to Procedure 0.5.1, Nonconformance And Corrective Action, will be implemented by September 1992. Monitoring program adherence will be an ongoing action.

Adequacy of Results Achieved:

The review of corrective action procedures from other utilities has been effective in identifying the programmatic weaknesses in the CNS program. These results are being utilized in the development of the CNS program revision. The effectiveness of this program upgrade will be determined through continuous monitoring by the technical staff and management.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: G-5-a

Assigned To: C. R. Moeller
Technical Staff Supervisor

Description:

The scope and timeliness of NCR root cause analyses caused a delay in corrective actions to assure safety.

Root Cause:

Administrative Controls Less Than Adequate. Although Procedure 0.5.1, Nonconformance And Corrective Action, provided a request form to revise nonconformance report due dates, this mechanism was not always utilized. Additionally, the due date extension process did not adequately address safety significance and the potential impact to safety.

Action Taken:

Procedure 0.5.1, Nonconformance And Corrective Action, has been revised to enforce timeliness requirements with respect to all nonconformance report corrective actions. In addition, this revision enhanced the process by requiring that safety significance be addressed prior to allowing a scheduled completion date to be reversed.

Action Planned:

Monitor compliance with the timeliness requirements of Procedure 0.5.1, Nonconformance And Corrective Action.

Schedule:

Revision to Procedure 0.5.1, Nonconformance And Corrective Action, was approved April 9, 1992. Monitoring of compliance to procedural requirements is ongoing.

Adequacy of Results Achieved:

Overdue nonconformance report actions have dropped from approximately 40% to zero and those actions requiring an extension to the scheduled completion date are being reviewed for safety significance. As a result of the actions taken, the stated concern appears to have been adequately addressed.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: G-5-b

Assigned To: C. R. Moeller
Technical Staff Supervisor

Description:

The NCR process does not require prompt evaluation of similar components that may have the same deficiency, but routinely allows a delay of an evaluation for the development of the root cause, which may take 30 days or more, since completion dates are routinely extended.

Root Cause:

Administrative Controls Less Than Adequate. Although Procedure 0.5.1, Nonconformance And Corrective Action, provided a request form to revise nonconformance report due dates, this mechanism was not always utilized. In addition, the process did not formally address safety significance and the potential impact to safety prior to granting due date extensions. As a result of recent management evaluation of the corrective action program, it was also determined that the quarterly review of open nonconformance reports was not frequent enough to insure safety concerns were identified in a timely fashion.

Action Taken:

Procedure 0.5.1, Nonconformance And Corrective Action, has been revised to:

1. Monitor and enforce timeliness requirements with respect to all nonconformance report corrective actions.
2. Enhance the process to revise predefined completion dates to require safety significance be formally addressed prior to an extension being granted.
3. Expand the scope of periodic reviews of open nonconformance reports from quarterly to monthly.

Action Planned:

Monitor compliance with the timeliness requirements of Procedure 0.5.1, Nonconformance And Corrective Action, and assess the effectiveness of the monthly review in identifying safety concerns.

Schedule:

Revision to Procedure 0.5.1, Nonconformance And Corrective Action, was approved April 9, 1992. Monitoring of compliance to procedure and adequacy of monthly review to identify safety concerns is ongoing.

Adequacy of Results Achieved:

Overdue nonconformance report actions have dropped from approximately 40% to zero, and those actions requiring an extension to the scheduled completion date are being reviewed for safety significance. To date, three monthly reviews have been conducted by SORC and all open nonconformance report actions were reviewed for safety concerns. As a result of the actions taken, the stated concern has been adequately addressed.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: G-5-c

Assigned To: C. R. Moeller
Technical Staff Supervisor

Description:

Corrective actions have not been fully effective with regard to addressing repetitive RWCU isolations.

Root Cause:

(See discussion under Action Taken.)

Action Taken:

In response to a concern noted in IR 91-27, an evaluation was done to determine if corrective actions had been effective in reducing the number of RWCU isolations. This evaluation was based on all RWCU isolations that occurred during the 1989 - 1991 time frame. The following is a summary of the findings:

1. Five events resulted from actual reactor low level signals following automatic or manual scrams. (Root Cause: Design) The low level reactor scram setpoint has been lowered from 12.5" to 4.5", which has been effective in reducing the number of isolations.
2. One event resulted from operational instability during reactor depressurization. (Root Cause: Design, Problem Not Anticipated) This condition was effectively remedied with the addition of the subcooling line.
3. Three events resulted from the incorrect application of a check valve in the subcooling line. (Root Cause: Design, Failure Of Design Review) This problem has been temporarily alleviated through procedural changes.
4. One event resulted from rapid depressurization when the system was taken out of service to replace a leaking valve. (Root Cause: Design, Problem Not Anticipated.) The system operating procedure has been revised to advise the Operators of the potential for an isolation, given this situation.
5. Eight events were associated with DC/ESC work. (Root Cause: Personnel, Lack Of Attention Or Concentration; Design, Problem Not Anticipated; and Design, Failure Of Design Review) Corrective actions have focused primarily on enhancements to the design change process, i.e., development and implementation.

Action Planned:

Based on the evaluation discussed above, a programmatic weakness was identified with respect to the development and implementation of design modifications. Corrective actions to address this weakness are detailed in LER 91-012. An Engineering Work Request (EWR) is under evaluation to modify the high temperature isolation. No additional actions are planned.

Schedule:

The actions identified in LER 91-012 were completed in May 1992. The EWRs are scheduled for completion in 1994.

1992 SALP ACTION PLAN FOR
COOPER NUCLEAR STATION

Item No: G-5-c (Continued)

Adequacy of Results Achieved:

The evaluation done as a result of IR 91-27 was effective in identifying programmatic concerns associated with repetitive RWCU isolations. These concerns have been addressed with actions either completed or being tracked for completion.

REGION IV

DIVISION OF
REACTOR PROJECTS

PRESALP BOARD

JANUARY 24, 1992

COOPER NUCLEAR STATION

SALP PERIOD

JULY 16, 1990

THROUGH

JANUARY 18, 1992

All

PERFORMANCE INDICATORS

* NA

P L A N T O P E R A T I O N S

A. PREVIOUS SALP RATINGS

<u>89</u>	<u>90</u>
1	1

B. WEAKNESSES IDENTIFIED IN 90 SALP

- * Training support for operations:
 - Operators performing at near minimum levels during the requalification exam, especially on the written exam.
 - Significant problems in test item development.
 - Marginal resources used to achieve the required improvements to the existing examination question bank and develop the training program for the newly installed simulator.

C. LICENSEE PERFORMANCE FROM PREVIOUS QPPRs

- * Plant perturbations were experienced:
 - A reactor trip
 - RHR valve failure (anticavitation trim elements)
 - HPCI inoperability (repair leaking valves - steam condenser lineup)

Licensed operator response to each of these perturbations was efficient, technically correct, and conservative.

Strong support for operations through these events was evident.

- * Single-loop operation (replaced brushes on MG sets) was a controlled evolution that was performed well by the operations staff.

- * An error was made during the reactor trip response, when a nonlicensed operator manipulated the wrong valves when transferring cooling for an air compressor from turbine equipment cooling. This error was not characteristic of operations performance and was attributed to poor lighting and incorrect valve labeling.
- * The licensee's decision to shut down the plant to identify and repair the cause of an increase in identified leakage was conservative.
- * While reducing power to make a drywell entry, the licensee demonstrated a proactive stance by creating a shutdown contingency plan while work was being performed in the switchyard.
- * The design of the SPDS screens provided excellent perceptual cues of changes in plant parameters of interest.
- * Senior site managers continued the excellent practice of conducting daily control room tours to maintain knowledge of plant conditions.
- * Housekeeping was maintained at an excellent level.
- * Weaknesses noted with the EOP/AOP verification and validation process.
- * Independent valve lineup verification not being performed at all times.
- * Plant safety demonstrated as paramount during surveillance testing.
- * Operators operated plant safely and appropriately responded to events.
- * Continued problems evident in the area of licensed operator training.

D. LICENSEE PERFORMANCE

NA

E. OBSERVATIONS FROM PREVIOUS QPPRs

- * Plant operators responded well to plant perturbations and were found to be knowledgeable.
- * Personnel errors were found to be isolated and were not indicative of a programmatic problem.

- * Management support is apparent.
- * Housekeeping was excellent.
- * Licensee continues to operate plant safely.
- * Weaknesses with EOP/AOP processing needs to be addressed by management.
- * Operation of plant continues to be at the same high level that has been evident in the past.
- * Concerns identified in the last SALP report in the area of licensed operator requalification training have not been adequately addressed:
 - Content of program not completely defined.
 - No linkage from task-list items to developed learning objections.
 - Operators expressed overall dissatisfaction with training organization.
 - Operators dissatisfied with lack of simulator availability.

F. OBSERVATIONS

NA

G. PERFORMANCE TREND

NA

H. INSPECTION PROGRAM STATUS

*** CORE INSPECTION PROGRAM ***

OPEN MODULES

Module	Responsibility	Hours	
		Plnd	Actl
None			

COMPLETED MODULES

71707	RI	924	
71710	RI	60	75
93702	RI	54	

*** REGIONAL INITIATIVES ***

OPEN MODULES

None

COMPLETED MODULES

71707	RI	168	
71714	RI	16	2
42700	OPS	40	67
60705	RI	20	14
60710	RI	20	19
2515/106	FIPS	30	24
93702	RI	0	
93702(RR)	RI	0	

TOTALS 1332

I. RECOMMENDED MIP CHANGES/ADDITIONS/DELETIONS

Interim MIP Additions:

- 64704 - Core (not done last SALP cycle)
- 71707 - Core
- 71710 - Core
- 93702 - Core
- 71707 - RI at 24 hours per inspection period
- 93702 - RR with no preplanned hours

S U P P O R T I N G D A T A
P L A N T O P E R A T I O N S

A. ENFORCEMENT AND REGULATORY ISSUES

1. Escalated Enforcement

None

2. Normal Enforcement

- | | | |
|-------|-----|--|
| 90-29 | NCV | Operators bypassed more average power range monitors that was permitted by plant TS (LPRM detector outputs found reversed). |
| 90-33 | NCV | While performing a reactor water cleanup filter demineralizer backwash, operators failed to issue a TPC when a procedural error was identified. |
| 90-34 | NCV | While performing a fire system flow test, operators failed to issue a TPC when a procedural error was identified. |
| 91-01 | NCV | While performing a fire system flow test, operators relied on memory instead of using the test procedure and failed to follow the procedure correctly. |

3. LERs

- | | | |
|-------|----------|--|
| 91-08 | 08/26/91 | Failure to comply with TS when containment isolation valve was inoperable. |
| 91-10 | 10/24/91 | RWCU isolation due to system depressurization while system isolated, causing hot water to enter regenerative heat exchanger. |
| 91-16 | 11/10/91 | Spurious RPS trip while performing decontamination activities under the reactor vessel. |
| 91-17 | 11/23/91 | Inadvertent ESF actuation when operator let go of a lead, which resulted in a blown fuse when the lead contacted ground. |

91-21 12/14/91 Inadvertent ESF actuation when operator failed to follow procedure.

B. INSPECTION REPORT SUMMARY

IR 90-29 - RI

- * The licensee responded promptly and conducted a thorough investigation into the cross connection of two LPRMs. Operations and reactor engineering demonstrated excellent awareness of the normal operating conditions of the reactor.
- * Operators failed to issue a TPC when a procedural error was identified.

IR 90-33 - RI

- * Operators properly controlled the reactor during the power increase after replacing the brushes on the MG sets (the plant was in single-loop operations for approximately 3 hours).
- * The HPCI was made inoperable to repair two pressure regulating valves located on the steam condensing mode lineup (between HPCI turbine and RHR heat exchanger).

IR 90-34 - RI

- * The plant tripped from 100 percent power as a result of a ground fault on the 345-KV line caused by a cable from a temporary elevator resulting in a partial loss of offsite power.
- * Operator error occurred when transferring the air compressor cooling from the TEC to the REC (poor lighting and mislabeled valve).

IR 90-38 - RI

- * Conservative preparations made in anticipation of the annual drop in river level.
- * Proper control room staffing was maintained and operators were found to be knowledgeable concerning plant status.
- * Good response to fire drill.

IR 91-01 - RI

- * Reduced power to locate and isolate a main condenser tube leak.

- * Lack of attention to detail and errors made by control room personnel caused a group 6 isolation while performing surveillance test on the fire protection system. This was a noncited violation for failure to follow procedures.
- * The plant power reduction main condenser tube leak repair activities, and the plant power increase were conducted in a conservative, controlled manner.
- * Housekeeping was maintained at an excellent level.

IR 91-04 - RI

- * The licensee shutdown the reactor to repair a leak from the hinge of the Loop B feedwater check valve located in the steam tunnel.
- * Water hammer in feedwater piping. No apparent damage.
- * Discovered steam leak through a crack located on the HPCI steam drain line, in the steam tunnel.

IR 91-07 - RI

- * Power was reduced to repair a packing leak on a CS system isolation valve.

IR 91-09 - OPS

- * Procedure weaknesses include failure to perform walkdowns, as part of the verification and validation process, for complex EOPs and commitment tracking information in the EOPs and AOPs.
- * Independent verification of valve lineups not being done, except during startup after outages. Independent verification not adequately addressed by controlling procedures.
- * Concern regarding a safety evaluation for an EOP was identified because it was performed by operations in lieu of a multidisciplinary review team.

IR 91-10 - RI

- * Actions by shift supervisor during surveillance testing demonstrated plant safety is paramount.

IR 91-17 - RI

- * Excellent information exchange among operators was observed during shift turnover.

IR 91-16 - OPS

- * Licensed operator requalification program:
 - Content of program not completely defined.
 - No linkage from task-list items to developed learning objectives.
- * Operators expressed overall dissatisfaction with training organization.
- * Operators dissatisfied with lack of simulator availability.
- * No dissatisfaction in training department.
- * OPMs not utilized for routine testing during crew requalification training weeks.

IR 91-18 - RI

- * Operators responded properly to plant events.

IR 91-20 - RI

- * Actions in response to a loss of an offsite power supply were appropriate.

RADIOLOGICAL CONTROLS

A. PREVIOUS SALP RATINGS

89 90

1 1

B. WEAKNESSES IDENTIFIED IN 90 SALP

- * Training program:
 - Lack of full time training coordinator
 - A formal training program had not been established for corporate professionals and supervisors in the environmental monitoring program.
 - Training instructor did not have a good inventory of basic reference material related to the RP area.
- * Lack of expertise to provide technical support to RP manager from the corporate level.

C. LICENSEE PERFORMANCE FROM PREVIOUS QPPRs

- * RMPs were found to contain appropriate information to ensure that work could be performed in a safe controlled manner. HP personnel were prompt in reposting radiation areas affected by plant shutdowns. In addition, radiological controls were adhered to by plant personnel.
- * The licensee's radiological confirmatory measurements results for the radiochemistry counting room and the HP counting room were in 100 percent agreement with NRC measurements. This was an improvement over the 97 percent agreement achieved in October 1988.
- * The solid radioactive waste and radioactive materials transportation programs were found to be in compliance with NRC requirements.
- * Radiation and contaminated areas properly posted and controlled.

- * Health physics personnel toured work areas to ensure that the radiological protection program was properly implemented.
- * Radiation work permits contained appropriate information to ensure that work could be performed in a safe and controlled manner.
- * The licensee implemented the radioactive waste effluent program in accordance with the Radiological Effluent Technical Specifications and Offsite Dose Assessment Manual.
- * The Radiological Manager is taking hot-license training (in his absence, the Radiological Support and HP supervisors will alternate to cover his position).
- * Good RP practices during maintenance activities.
- * Management support apparent.
- * Several examples of weak RP controls and housekeeping.
- * RP program improvements being implemented.

D. LICENSEE PERFORMANCE

NA

E. OBSERVATIONS FROM PREVIOUS QPPRs

- * The licensee continues to have effective programs:
 - RP
 - ALARA
 - Radioactive waste management and effluent control and monitoring
 - Water chemistry
- * Strong management support continues to be apparent.
- * Licensee implements RP program very well.
- * Licensee appears to be performing at same level as previously identified.

F. OBSERVATIONS

NA

G. PERFORMANCE TREND

NA

H. INSPECTION PROGRAM STATUS

*** CORE INSPECTION PROGRAM ***

OPEN MODULES

Module	Responsibility	Hours	
		Plnd	Actl
None			

COMPLETED MODULES

83750	FIPS	75	145
84750	FIPS	75	106
86750	FIPS	20	34

*** REGIONAL INITIATIVES ***

OPEN MODULES

2515/112	FIPS/RI	40	0
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COMPLETED MODULES

83523	FIPS	8	13
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TOTALS		218	298
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I. RECOMMENDED MIP CHANGES/ADDITIONS/DELETIONS

Interim MIP Additions:

- 83750 - Core
- 84750 - Core
- 86750 - Core
- 2515/112 - Required by MC 2515

S U P P O R T I N G D A T A
R A D I O L O G I C A L C O N T R O L S

A. ENFORCEMENT AND REGULATORY ISSUES

1. Escalated Enforcement

None

2. Normal Enforcement

9125-01 IV Licensee did not place personnel
monitoring equipment on back of workers.

9125-02 IV Four special work permits did not
specify the need for multiple dosimetry.

3. LERs

None

B. INSPECTION REPORT SUMMARY

IR 90-29 - RI

- * Good radiological practices during surveillances.
- * Good postoutage HP practices.

IR 90-30 - CHEM

- * Replacement of two chemistry technicians did not affect
radiochemistry program.
- * Excellent results in the radiological water chemistry
and HP counting room confirmatory measurements.

IR 90-33 - RI

- * HP personnel ensured proper implementation of ALARA
during valve repairs in the RHR steam condensing mode
crossconnect piping.
- * RWPs contained appropriate information.
- * Controls upgraded to prevent contamination spread in
instrument racks.

IR 90-34 - RI

- * The licensee continued to assess the possibility of establishing a single entry for the RCA.
- * Radiation and contaminated areas were properly posted and controlled.

IR 90-38- RI

- * HP personnel ensured that the radiation protection program was properly implemented.

IR 90-39 - RP

- * The licensee's facilities for solidifying, dewatering, of compacting waste remaining unchanged.
- * The licensee had implemented adequate procedures for preparing, tracking, classifying, and shipping radioactive materials and waste.

IR 91-01 - RI

- * The radiological protection program was adequately implemented.

IR 91-03 - RP

- * The licensee implemented the radioactive waste effluent program in accordance with the RETS and ODAM.

IR 91-04 - RI

- * The radiological protection program was adequately implemented.

IR 91-07 - RI

- * The radiological protection program was adequately implemented.

IR 91-10 - RI

- * Good RP practices during maintenance activities.

IR 91-14 - HP

- * Continued excellent management support for RP.
- * Developing enhanced radiation worker training program to reduce personnel contaminations.
- * Licensee implementing short- and long-term improvements to ALARA program.

- * Radiation exposure continues to be below national average.

IR 91-17 - RI

- * Excellent OJT provided by staff HPs to contractor HPs.
- * HP provided excellent coverage of job activities during surveillance activities.

IR 91-18 - RI

- * Several examples of weak RP controls and housekeeping were identified.
- * Licensee corrected deficiencies promptly.
- * HP coverage good during vessel head removal.
- * HP response to spill in feed pump room excellent.

IR 91-25 - RP

- * Weaknesses were identified with hot spot procedures.
- * Real time tracking of radiation exposures was poor and subject to errors.
- * Poor communications and control among personnel regarding radiological controls is a problem area.
- * An excellent general employee radiation worker training program.
- * Good program for the control and issuance of respiratory equipment.
- * Housekeeping in the RCAs was marginal.
- * ALARA coordinator did not attend all mockup training for jobs involving significant radiological control problems.
- * ALARA staffing for outage was minimal.

MAINTENANCE / SURVEILLANCE

A. PREVIOUS SALP RATINGS

89 90

2 21

B. WEAKNESSES IDENTIFIED IN 90 SALP

- * Insufficient details in maintenance procedures and work instructions.
- * Insufficient control of work activities.
- * Inadequate prejob planning.
- * Poor documentation of accomplished work activities.

C. LICENSEE PERFORMANCE FROM PREVIOUS QPPRs

- * Surveillances during this assessment period were well performed.
- * I&C technicians and station operators did an excellent job of transferring information from the tests performed to their trainees during on-the-job training.
- * The licensee had a good program for determining the need for retest in the areas of design changes, temporary design changes and maintenance work.
- * Control and documentation of work activities indicated continuing improvement in this area. Procedures provided satisfactory guidance, but an instance was identified where a maintenance work request failed to have attached special instruction sheets with proper QC controls. Other errors included an MWR which had a mislabeled drawing.
- * Quality of maintenance procedures improved and provided detailed guidance.
- * Personnel errors that caused a Group VI isolation and inadequate surveillance testing performance indicated a lack of attention to detail, but did not appear to be a breakdown in management controls.

- * Procedure upgrade process performed in a satisfactory manner.
- * OJT for maintenance personnel was excellent.
- * System cleanliness procedural requirements weak.
- * Maintenance procedures have been improved.
- * OJT for maintenance personnel excellent.

D. LICENSEE PERFORMANCE

NA

E. OBSERVATIONS FROM PREVIOUS QPPRs

- * Strong surveillance program.
- * Knowledge and experience level of the crafts continued to be a strength.
- * The on-the-job training program for I&C technicians continued to be a strength.
- * Good postmaintenance testing program.
- * The maintenance program was showing signs of improvement with less procedural errors and less reliance on the skill of the craft.
- * Improvements in procedures noted. Management effectively addressing previous SALP weakness.
- * Maintenance program effectively implemented.
- * Performance in this area appears to be at the same level as has past performance.

F. OBSERVATIONS

NA

G. PERFORMANCE TREND

NA

H. INSPECTION PROGRAM STATUS

*** CORE INSPECTION PROGRAM ***

OPEN MODULES

Module	Responsibility	Plnd	Hours	Actl
None				

COMPLETED MODULES

61726	RI	245		
62703	RI	220		
73753	MQPS	32		20

*** REGIONAL INITIATIVES ***

OPEN MODULES

61715	TPS	50		36
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COMPLETED MODULES

61720	TPS	20		39
62702	OPS	40		26
56700	PSS	32		9
62700	OPS	30		48
70370	PSS	32		23
73051	MQPS	25		2
73052	MQPS	10		10

TOTALS 870

I. RECOMMENDED MIP CHANGES/ADDITIONS/DELETIONS

Interim MIP Additions:

61726 - Core
62703 - Core
73753 - Core

S U P P O R T I N G D A T A
M A I N T E N A N C E / S U R V E I L L A N C E

A. ENFORCEMENT AND REGULATORY ISSUES

1. Escalated Enforcement

None

2. Normal Enforcement

9029-01	IV	Failure to follow procedure. Two instances were identified where personnel were not provided special instruction sheets with appropriately assigned QC requirement.
91-26	NCV	CRD capscrews not included in ISI program.

3. LERs

90-07	06/17/90	Inoperable service water pump Halon fire suppression system due to procedural inadequacy.
90-08	07/06/90	Surveillances were not performed in the required surveillance intervals due to personnel error and problems with the scheduling computer.
90-10	08/14/90	Two LPRM detector outputs were found to be reversed.
91-01	01/07/91	Unplanned Group VI isolation during surveillance testing due to technicians making a procedural error.
91-03	03/25/91	Group VI isolation during surveillance testing due to personnel error and procedure deficiency.
91-11	10/02/91	RPS and ESF trips due to air bubble in vessel level instrument reference leg, poor surveillance procedure.

B. INSPECTION REPORT SUMMARY

IR 90-29 - RI

- * Surveillances were all well performed.
- * On-the-job training program for qualifying I&C technicians was comprehensive.

IR 90-31 - TPS (SERT)

- * The licensee had a good program for determining the need for retest in the areas of design changes, temporary design changes and maintenance work.
- * Postmaintenance testing control sufficiently detailed to ensure thorough reviews were performed.
- * Good control over temporary design change testing.

IR 90-33 - RI

- * Surveillances were well performed.
- * Excellent information transfer during on-the-job training.
- * Maintenance activities were performed as required.

IR 90-34 - RI

- * Surveillances were well performed.

IR 90-38 - RI

- * Control and documentation of work activities indicated continuing improvement in this area.
- * Procedures provided satisfactory guidance and proper postmaintenance testing was specified.
- * On-the-job training program for I&C technicians continued to be a strength.

IR 91-01 - RI

- * The licensee repaired the main condenser tube leak.
- * The postmaintenance testing was appropriate for work performed. Special instructions were written to provide guidance for critical step performance.

- * Personnel conducted the surveillance activities in accordance with procedures.

IR 91-04 - RI

- * RWCU Pump A was repaired because the inboard pump-to-motor coupling bearing failed (manufacturing defect).
- * Mechanical seals for the RHR service water booster pump were replaced.
- * Hydraulic snubber inspection.
- * Personnel conducted the surveillance activities in accordance with procedures.

IR 91-07 - RI

- * Maintenance activities were well performed and procedures were found to be good.
- * Surveillance activities were performed in accordance with procedures.

IR 91-09 - OPS

- * Maintenance and procedure processes managed in an effective manner.
- * Procedure upgrade process effectively improved all classes of procedures.
- * Weaknesses identified with lack of controls for establishing cleanliness requirements for maintenance activities.

IR 91-10 - RI

- * Excellent transfer of information during OJT.
- * Maintenance performed per vendor instruction manual.

IR 91-13 - RI

- * Excellent cooperation between operators and I&C technicians during surveillance testing.
- * Maintenance procedure for testing emergency lighting provided excellent guidance to crafts.

IR 91-17 - RI

- * Proactive approach to plant operations by promptly determining root cause of surveillance failures.
- * Procedure for surveillance of fire detection equipment was excellent.
- * Concerns identified with timely development of instructions for repair of the EDG air compressor.
- * Good OJT for unqualified mechanic.

IR 91-20 - RI

- * Leak rate testing and inservice testing M&TE programmatic controls were weak.
- * Good communications observed during surveillance testing.
- * Good control of cold weather preparations.

IR 91-21 - MQPS

- * NDEs being effectively implemented, in general.
- * Plan developed to address vessel stud with indication.

IR 91-25 - MQPS

- * NDE procedures adequate to address the methods specified in the ISI program.
- * No problems noted with the licensee's actions related to the indications in the FW nozzles.

EMERGENCY PREPAREDNESS

A. PREVIOUS SALP RATINGS

89 90

2 21

B. WEAKNESSES IDENTIFIED IN 90 SALP

- * Failure to follow emergency notification procedures.
- * Dose assessments.
- * Access and egress control.

C. LICENSEE PERFORMANCE FROM PREVIOUS QPPRs

- * Only two exercise weaknesses:
 - CR director assigned responsibility to maintain accountability.
 - Delay exercise performance was very good.
- * Overall exercise performance was very good.
- * Improvement from previous exercises noted.
- * Response to annual exercise indicated weaknesses of concern in the licensee's ability to respond to an event.
- * Weaknesses identified that resulted in management meeting.

D. LICENSEE PERFORMANCE

NA

E. OBSERVATIONS FROM PREVIOUS QPPRs

- * Overall exercise improvement noted.
- * Response to annual exercise indicated weaknesses of concern in the licensee's ability to respond to an event.

* Especially notable was the weakness that identified the licensee's weak self-critique process.

F. OBSERVATIONS

NA

G. PERFORMANCE TREND

NA

H. INSPECTION PROGRAM STATUS

*** CORE INSPECTION PROGRAM ***

OPEN MODULES

Module	Responsibility	Hours	
		Plnd	Actl
82701	FIPS	12	0

COMPLETED MODULES

82301	FIPS	108	254
82302	FIPS	12	3

*** REGIONAL INITIATIVES ***

OPEN MODULES

82201	FIPS	15	0
82202	FIPS	10	0
82206	FIPS	17	0

COMPLETED MODULES

None

TOTALS 204 257

I. RECOMMENDED MIP CHANGES/ADDITIONS/DELETIONS

Interim MIP Additions:

82701 - Core
82301 - Core
82302 - Core
82301 - RI for 56 hours

S U P P O R T I N G D A T A
E M E R G E N C Y P R E P A R E D N E S S

A. ENFORCEMENT AND REGULATORY ISSUES

1. Escalated Enforcement

None

2. Normal Enforcement

None

3. LERs

None

B. INSPECTION REPORT SUMMARY

IR 90-25 - EP

* Weaknesses identified

- CR director was assigned responsibility to maintain continuous accountability after the evacuation of nonessential personnel from the PA.
- Delay in using the EDG after it was available and other items pertaining to operator proficiency.

* Overall performance was very good.

* Improvements from previous exercises were noted.

IR 91-12 - EP

* Licensee response to exercise generally adequate.

* Weakness identified:

- Weak command and control in CR and TSC.
- Poor coordination, control, and radiological practices of in-pint survey and repair teams.
- EOF failed to adequately assess the offsite radiological consequences of a release.
- Unnecessary simulation.
- Self-critique process failed to identify several areas in need of corrective action.

SECURITY

A. PREVIOUS SALP RATINGS

89 90

2 2I

B. WEAKNESSES IDENTIFIED IN 90 SALP

- * Corporate management slow in establishing audit program for safeguards information.
- * Improperly performed 50.54(p) change (could have degraded program effectiveness).

C. LICENSEE PERFORMANCE FROM PREVIOUS QPPRs

- * Security personnel performed their duties in accordance with established procedures, including testing of the newly installed access control equipment.
- * The licensee appears to be proactive concerning security training and is using imaginative methods to improve security performance. An example of this is the use of video equipment to assist in training (situation analysis).
- * The FFD program satisfied the fundamental objectives of the NRC regulations. Several aspects of the program are considered to be strengths. As a consequence, employee support for and confidence in the FFD program appeared to be high.
- * Shotgun shell problem handled very well.
- * Security personnel performed their duties in accordance with established procedures, including testing of the newly installed access control equipment.
- * Properly trained and motivated.
- * Personnel access was observed to be controlled in accordance with established procedures.
- * The licensee's prompt and thorough response to a false positive drug test was proactive.

- * Significant improvements were noted in the security program.
- * A concern exists with the depth of the audits if the background investigation program.
- * Licensee proactive in addressing weakness.
- * Superior performance to computer outage.
- * No problems identified with program implementation.

D. LICENSEE PERFORMANCE

NA

E. OBSERVATIONS FROM PREVIOUS QPPRs

- * Management support is apparent.
- * Security personnel implemented the security program effectively, and were constantly seeking improvement.
- * Proactive licensee.
- * Performance in this area continues to improve.

F. OBSERVATIONS

NA

G. PERFORMANCE TREND

NA

H. INSPECTION PROGRAM STATUS

*** CORE INSPECTION PROGRAM ***

OPEN MODULES

Module	Responsibility	Hours	
		Plnd	Actl
None			

COMPLETED MODULES

31700	FIPS	80	52
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*** REGIONAL INITIATIVES ***

OPEN MODULES

None

COMPLETED MODULES

81034	FIPS	10	6
81038	FIPS	10	6
81046	FIPS	10	6
81084	FIPS	10	4

TOTALS 120 74

I. RECOMMENDED MIP CHANGES/ADDITIONS/DELETIONS

Interim MIP Additions:

81700 - Core

S U P P O R T I N G D A T A
S E C U R I T Y

A. ENFORCEMENT AND REGULATORY ISSUES

1. Escalated Enforcement

None

2. Normal Enforcement

90-37	NCV	Licensee failure to promptly notify NRC of a false positive test result on a blind performance test specimen, as required by Part 26.24.
90-37	NCV	Licensee failure to provide behavioral observation training to several managerial and supervisory personnel as required by Part 26.22.
91-06	IV	Failure of both metal detectors to detect the weapon used as a licensee test device.
91-15	IV	Shadows in isolation zones prevented proper CCTV coverage.

3. LERs

None

B. INSPECTION REPORT SUMMARY

IR 90-29 - RI

- * Personnel and vehicle access was observed to be controlled in accordance with established procedures.

IR 90-33 - RI

- * The licensee appears to be proactive concerning security training and is using imaginative methods to improve security performance (use of video equipment to assist in training for situational analysis).

- * The licensee tested intrusion detection system with no apparent problems.
- * Extra security personnel stationed during plant open house. Proactive security posture.

IR 90-37 - SEC

- * The FFD program satisfies the fundamental objectives of Part 26.
- * The dedication and professionalism of the current FFD staff is a strength that has significantly contributed to the licensee satisfying the general objectives of the FFD rule.
- * Specific aspects of the FFD program such as security of the collection facility, daily room checks, records keeping, courier verification, and the professional environment of the facilities lend credibility and confidence to the program.

IR 91-01 - RI

- * The licensee conducted an unannounced inspection of the contract test laboratory following a false positive drug test (the test involved a for-cause test specimen).

IR 91-04 - RI

- * Implementation of the licensee's security program was found to be good.

IR 91-06 - SEC

- * Inspection of the licensee's physical security program.
- * Several significant areas of improvement in the security program.
- * There is a concern about the depth of the audits of the background investigation program.

IR 91-07 - RI

- * Licensee installed deflector shields and posted security guards to prevent circumvention of the x-ray machines and metal detectors.
- * Security program was adequately implemented.

IR 91-10 - RI

- * Proactive by reinforcing concertine barbed wire.

IR 91-15 - SEC

- * Program adequately managed and receives management support.
- * Security force adequately trained and motivated and working to effect program improvement.

IR 91-18 - RI

- * Security demonstrated superior response to planned security outage.

IR 91-22 - SEC

- * Program efficiently and effectively integrated with the total organizational environment.
- * Senior management support apparent.
- * Intraorganizational communication among managers and contract organizations exceptionally well managed.
- * Staff well qualified and trained.
- * All areas exceptionally well managed.

ENGINEERING / TECHNICAL SUPPORT

A. PREVIOUS SALP RATINGS

89 90

2 2

B. WEAKNESSES IDENTIFIED IN 90 SALP

- * Training support and effectiveness.
- * Maintenance support:
 - Design and configuration control
 - Control of vendor technical information
 - Control of on-the-spot changes

C. LICENSEE PERFORMANCE FROM PREVIOUS QPPRs

- * The licensee's investigation of, and action in response to the RHR throttle valve failure and the apparent cross connection of two LPRMs were found to be thorough and well planned.
- * The training program for the chemistry/radiochemistry department personnel met the USAR and TS requirements.
- * In the area of the PASS technicians training program, the licensee failed to conduct the semiannual requalification training as required by plant procedures. This was the second time the licensee violated plant procedures and failed to conduct this training. It is apparent that the licensee's corrective action in response to the first violation is ineffective.
- * An instance was identified where the licensee failed to make appropriate procedure changes (i.e. following a design change or an identified procedural error).
- * Engineering support of maintenance is a strength.

- * The licensee's investigation of, and actions in response to:
 - potentially inoperable snubbers,
 - failure of a motor operated throttle valve in the residual heat removal (RHR) system.

was prompt, thorough, well planned and conservative.

- * During control rod adjustments, excellent cooperation between engineering and operations was observed.

- * EDSFI results

- Design of electrical power system acceptable.
- Excellent fuse control, labeling, and tagging programs.
- Good interdepartmental communications and plant material condition.
- Plant equipment well maintained.
- Site engineering and technical support superior.

- * No problems identified in nonlicensed training.

D. LICENSEE PERFORMANCE

NA

E. OBSERVATIONS FROM PREVIOUS OPRs

- * The licensee's performance in the area of training continues to be a concern.
- * EDSFI results generally very favorable.
- * Performance in the non-licensed training area appears to be improving.

F. OBSERVATIONS

NA

G. PERFORMANCE TREND

NA

H. INSPECTION PROGRAM STATUS

*** CORE INSPECTION PROGRAM ***

OPEN MODULES

Module	Responsibility	Hours	
		Plnd	Actl
None			

COMPLETED MODULES

37700	PSS	60	37
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*** REGIONAL INITIATIVES ***

OPEN MODULES

2515/109	PSS	128	0
2515/111	OPS	32	0

COMPLETED MODULES

72701	TPS	96	73
37828	PSS, TPS	42	10
37700	RI	30	24
41500	OPS	36	68
2515/107	OPS	260	687

TOTALS 652 899

I. RECOMMENDED MIP CHANGES/ADDITIONS/DELETIONS

Interim MIP Additions:

- 37700 - Core
- 2515/109 - Required by MC 2515
- 2515/111 - Required by MC 2515

S U P P O R T I N G D A T A
E N G I N E E R I N G /
T E C H N I C A L S U P P O R T

A. ENFORCEMENT AND REGULATORY ISSUES

1. Escalated Enforcement

None

2. Normal Enforcement

9030-01 IV Licensee failure to conduct PASS operator requalification training for all chemistry technicians at the 6-month interval required by plant procedures.

3. LERs

90-12 08/29/90 Valve stem clamp setscrews and trim failures of two RHR valves due to vendor design deficiencies.

91-02 03/24/91 RWCU isolation due to high system temperature during plant cooldown, caused by back leakage thru a check valve.

91-04 03/26/91 Unplanned automatic startup of Diesel Generator 1 due to inadequate planning and poor communications during drawing verification project activities.

91-06 08/06/91 UV relays not set per TS as TS did not have correct design basis.

91-07 07/30/91 EDAs declared inoperable when identified that room coolers were not seismically qualified.

91-12 10/15/91 During modification work, bumping a relay caused ESF actuation due to failure to recognize sensitive area working in.

91-13 10/18/91 Fire watch not established for nonfunctional fire barrier. Inadequate procedure.

B. INSPECTION REPORT SUMMARY

IR 90-29 - RI

- * Thorough investigation into cross connection of two LPRMs by operations and reactor engineering demonstrated excellent awareness of the normal operating conditions of the reactor.
- * Licensee failed to make a procedure change following an equipment modification in response to a commitment made to the NRC. Licensee is confident that these errors will be caught in the future as a result of the newly created action list file which is designed to track commitments.

IR 90-30 - RP

- * For the chemistry/radiochemistry section, the licensee's training program appears to meet USAR and TS requirements.

IR 90-35 - PSS

- * Special inspection to evaluate licensee actions in response to the failure of a motor-operated throttle valve in the RHR system.

IR 90-38 - RI

- * Licensee actions in response to the RHR throttle valve failure were thorough and well planned.

IR 91-04 - RI

- * During reactivity changes, reactor engineering oversight was evident.

IR 91-07 - RI

- * One instance of inattention to detail was identified when a resolution to discrepancy found in a surveillance procedure had not been documented.

IR 91-02 - EDSFI

- * Quality of site engineering and technical support activities superior.

- * Design of the electrical power system acceptable.
- * Comprehensive fuse control program.
- * Excellent labeling and tagging program.
- * Interdepartmental communications good.
- * Good plant material condition.
- * Plant equipment well maintained.
- * Inappropriate design inputs to calculations identified. Minor and did not affect results.
- * Water hammer effects not considered for SW system in recently completed calculations.
- * Relatively inexperienced design engineering staff.

IR 91-15 - OPS

- * Training for electrical maintenance technicians conformed to industry standards.

IR 91-13 - RI

- * System engineer did excellent job in evaluating RPS response time testing data.
- * Good coordination noted between systems engineering and maintenance personnel.

IR 91-12 - PSS

- * Snubber and support programs were found to be comprehensive and well structured.
- * Calibration and the maintenance and test equipment programs properly implemented.

IR 91-14 - TPS

- * Strong program for containment building leak rate testing.
- * Effective program to ensure containment integrity.

S A F E T Y A S S E S S M E N T /
Q U A L I T Y V E R I F I C A T I O N

A. PREVIOUS SALP RATINGS

89 90

3 2

B. WEAKNESSES IDENTIFIED IN 90 SALP

- * Surveillances are more compliance oriented than performance oriented.
- * Lack of technical expertise in HP audits.

C. LICENSEE PERFORMANCE FROM PREVIOUS QPPRs

- * The efforts put forth by the nonconformance overview committee provided added assurances that nonconformance report closure were thorough and complete.
- * QA audits that were performed on the water chemistry, radiochemistry, radiological waste, radioactive material transportation, and FFD programs were found to be thorough and complete. Some of these audits identified several significant findings. Responses to the audit findings were timely and corrective actions were verified by QA.
- * Quality Assurance surveillances and audits had been performed as required and were technically comprehensive.
- * 10 CFR Part 21 program and procedures were well defined and effectively implemented.
- * An apparent improvement with regard to the thoroughness of the licensee QA audits was noted.
- * Initiatives to establish an SRG a strength.
- * QA implementing performance-based surveillances.
- * Audit program comprehensive and performance based.
- * Audit program area of strength.
- * Self-assessment process effective.

- * Committee oversight functions a strength.
- * Scope and depth of QA overview of corrective action process weak.

D. LICENSEE PERFORMANCE

NA

E. OBSERVATIONS FROM PREVIOUS QPPRs

- * Licensee addressing weakness identified in previous SALP for QA surveillances.
- * Part 50.59 program excellent.
- * TS submittals very good.
- * Very good oversight functions by QA and committees.
- * QA overview of corrective action process weak.

F. OBSERVATIONS

NA

G. PERFORMANCE TREND

NA

H. INSPECTION PROGRAM STATUS

*** CORE INSPECTION PROGRAM ***

OPEN MODULES

Module	Responsibility	Hours	
		Plnd	Actl
None			

COMPLETED MODULES

40500	CPS	40	34
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*** REGIONAL INITIATIVES ***

OPEN MODULES

None

COMPLETED MODULES

30703	ALL	30	13
35502	RPS	24	10
35750	PSS	32	18
36100	MOPS	20	11
40702	MOPS	20	10
40704	MOPS	50	25
90712	RPS	30	19
92700	ALL	156	
92701	ALL	150	
92702	ALL	80	
92720	RI	0	1
93001	RI	0	1
2515/85	RI	40	48
2515/65	RI	70	95

TOTALS 302

I. RECOMMENDED MIP CHANGES/ADDITIONS/DELETIONS

Interim MIP Additions:

40500 - Core
90712 - 50 hours for SALP cycle
92700 - 50 hours for SALP cycle
92701 - 50 hours for SALP cycle
92702 - 50 hours for SALP cycle
93001 - 40 hours for SALP cycle
30702 - 20 hours for SALP cycle

S U P P O R T I N G D A T A
S A F E T Y A S S E S S M E N T /
Q U A L I T Y V E R I F I C A T I O N

A. ENFORCEMENT AND REGULATORY ISSUES

1. Escalated Enforcement

None

2. Normal Enforcement

None

3. LERs

90-11 10/17/90 Unplanned reactor scram due to ground on the 345-kV Phase A line caused a power supply cable for a temporary construction elevator coming in contact with the 345-kV line.

91-05 05/11/91 Unplanned start of EDG due to transformer supply breaker auxiliary contacts malfunction.

B. INSPECTION REPORT SUMMARY

IR 90-12 - RI

- * Nonconformance overview committee provided added assurance that conformance report closures were thorough and complete.

IR 90-13 - RP

- * QA surveillance and audit program for chemistry/radiochemistry complied with USAR and TS.

IR 90-14 - RI

- * Surveillances and audits will be performed on QC function by QA.

IR 90-37 - SEC

- * FFD program audit was timely and thorough.

IR 90-39 - RP

- * QA audits resulted in significant findings and the responses to audits were timely.
- * QA surveillances were performed on most shipments of radioactive materials.

IR 91-03 - RP

- * Quality Assurance surveillances and audits had been performed as required and were technically comprehensive.

IR 91-05 - MOPS

- * Review of licensee procedures and controls for reporting defects and noncompliances in accordance with 10 CFR Part 21.

IR 91-09 - OPS

- * Initiatives to establish a safety review group was a strength.

IR 91-10 - RI

- * QA surveillances are becoming more performance-based as demonstrated by HPCI functional test.

IR 91-11 - MOPS

- * Audit program comprehensive and performance based.
- * Reports clearly define scope and findings of audit.
- * Audit responses timely.
- * Overall, area of strength.

IR 91-13 - RI

- * QA trend report provided good analysis, found a potentially inadequate surveillance procedure.

IR 91-14 - HP

- * Audits and surveillances were performance based using outside technical expertise.

IR 91-17 - RI

- * Superior response and root cause evaluation related to inopable EDG fuel oil strainer.

IR 91-18 - RI

- * Licensee maintained excellent control of work during outage.

IR 91-19 - OPS

- * Self-assessment procees functioning effectively.
- * Minor weaknesses identified in the documentation of root cause analyses and in the depth of some events reviewed.
- * Committee oversight functions were a strength.
- * Scope and depth of QA overview of corrective action process weak.

NO CATEGORY LERS

- 90-09 06/17/90 RCIC system was inoperable due to steam system valve failure, attributed to spring pack hydraulic lock.
- 91-09 09/04/91 Group VI isolation due to faulty power supply for radiation monitor.

INSPECTION REPORTS

90-25	Terc	Emergency Preparedness	07/23-07/27
90-26		Evaluated in last SALP report	
90-27		Evaluated in last SALP report	
90-28		Evaluated in last SALP report	
90-29	Bennett	Resident	07/16-09/03
90-30	Nicholas	Chemistry/Radio Chemistry	08/27-08/31
90-31	Murphy	System Entry and Retest	09/10-09/14
90-32		Cancelled	
90-33	Bennett	Resident	09/04-10/16
90-34	Bennett	Resident	10/17-11/26
90-35	Wagner	Reactive for RHR vlv failure	10/24-10/26
90-36		Cancelled	
90-37	McLean	Fitness for Duty	12/04-12/06
90-38	Bennett	Resident	11/27-01/07
90-39	Ricketson	Radio Waste Materials	11/27-11/30
91-01	Bennett	Resident	01/08-02/19
91-02	Bess	EDSFI	07/15-08/16
91-03	Nicholas	Rad Effluent Systems	02/04-02/08
91-04	Bennett	Resident	02/20-04/02
91-05	Stewart	10 CFR Part 21	03/25-03/29
91-06	Earnest	Security	04/01-04/05
91-07	Bennett	Resident	04/03-05/14
91-08		Cancelled	
91-09	Hunter	Maint and Procedures	06/24-06/28
91-10	Bennett	Resident	05/15-06/25

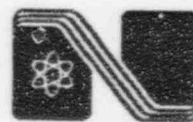
91-11	Stewart	Internal Audit Program	08/05-08/09
91-12	Spitzberg	Annual Emergency Exercise	07/22-07/26
91-13	Bennett	Resident	06/26-08/06
91-14	Baer	RP Program	08/12-08/16
91-15	Caldwell	Security	07/29-08/02
91-16	Whitemore	Training Programs	08/26-08/30
91-17	Bennett	Resident	08/07-09/17
91-18	Pick	Resident	09/18-10/29
91-19	Hunter	Self-assessment	08/26-08/30
91-20	Pick	Resident	10/30-12/06
91-21	Gilbert	ISI Activities	10/21-10/25
91-22	Caldwell	Security	10/28-10/31
91-23	Pauik	Design Changes	10/21-10/25
91-24	Singh	VOICE	11/18-11/22
91-25	Gaines	RP Program	10/28-11/01
91-26	Ellershaw	ISI Activities	11/18-11/22 12/02-12/06
91-27	Collins	Resident	
92-01	Spitzberg	EP Program	

NEBRASKA PUBLIC POWER DISTRICT

NUCLEAR REGULATORY COMMISSION REGION IV

MANAGEMENT MEETING

JULY 7, 1992



A/2

AGENDA

- INTRODUCTION
- OVERVIEW
- LICENSED OPERATOR TRAINING
- RADIOLOGICAL CONTROLS
- NUCLEAR PROCUREMENT PROGRAM
- OPERABILITY PROGRAM/DEFICIENCY PROGRAM IMPROVEMENTS
- CONCLUDING REMARKS

H. G. PARRIS

G. R. HORN

D. A. WHITMAN

R. L. GARDNER

C. M. ESTES

E. M. MACE

G. R. HORN



NEBRASKA PUBLIC POWER DISTRICT
NUCLEAR REGULATORY COMMISSION REGION IV

MANAGEMENT MEETING

LICENSED OPERATOR TRAINING

JULY 7, 1992



INTRODUCTION

- ***SALP REPORT BACKGROUND***
- ***TRAINING ACCOMPLISHMENTS DURING SALP PERIOD***
- ***SUBSEQUENT ACTIONS TAKEN OR PLANNED***
- ***RESULTS ACHIEVED***



SALP REPORT BACKGROUND

- **LICENSED OPERATOR TRAINING PROGRAM CONCERNS**
 - **COMMAND AND CONTROL DEFICIENCIES**
 - **OPERATORS' ABILITY TO PERFORM DURING SIMULATED EMERGENCY EVENTS**
 - **MANAGEMENT EFFECTIVENESS**



TRAINING ACCOMPLISHMENTS **DURING PAST SALP PERIOD**

- ***ACHIEVED ACCREDITATION OF ALL OPERATIONS TRAINING PROGRAMS BY THE NATIONAL NUCLEAR ACCREDITING BOARD***
- ***CNS CONTROL ROOM SIMULATOR WAS CERTIFIED IN ACCORDANCE WITH ANS 3.5 REQUIREMENTS***
- ***ACHIEVED FULL STAFFING OF OPERATIONS INSTRUCTOR POSITIONS WITH NPPD PERSONNEL (14 OF 14)***
- ***ESTABLISHED PROGRAM TO ROTATE FOUR LICENSED OPERATORS TO TRAINING AS INSTRUCTORS***



TRAINING ACCOMPLISHMENTS
DURING PAST SALP PERIOD (cont.)

- **COMPLETED MAJOR SIMULATOR UPGRADE**
- **IMPLEMENTED AUTOMATED DATA RETRIEVAL SYSTEM FOR OPERATIONS TASK ANALYSIS**
- **DROPPED EXCESS SRO/RO LICENSES TO ALLOCATE TRAINING RESOURCES MORE EFFECTIVELY**
- **COMPLETED COMPENSATION ANALYSIS OF OPERATIONS INSTRUCTOR POSITIONS**



TRAINING ACCOMPLISHMENTS
DURING PAST SALP PERIOD (cont.)

- ***ESTABLISHED SRO CERTIFICATION PROGRAM***

- ***ESTABLISHED SRO CERTIFICATION BONUS***

- ***ESTABLISHED LEAD OPERATIONS INSTRUCTOR POSITIONS***

- ***FINALIZED COMPREHENSIVE QA ASSESSMENT OF PREVIOUS TRAINING CONCERNS***



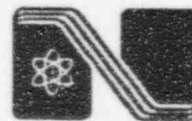
TRAINING ACCOMPLISHMENTS
DURING PAST SALP PERIOD (cont.)

- **COMPLETED REQUALIFICATION PROGRAM CRITIQUE BY LICENSED OPERATORS**
- **REDEFINED NUMBER OF SIMULATOR SCENARIOS TO REDUCE OPERATOR STRESS**
- **ESTABLISHED MILESTONE PROGRESS REVIEW TO ASSURE CANDIDATES' PREPARATION FOR LICENSE EXAMS**



SUBSEQUENT ACTIONS TAKEN OR IN PROGRESS

- ***ENHANCED EMERGENCY PREPAREDNESS TRAINING FOR OPERATORS***
- ***ESTABLISHED INSTRUCTIONAL STANDARDS AND EVALUATION METHODS FOR OPERATOR COMMAND AND CONTROL***
- ***COMPLETED INPO TEAM TRAINING FOR OPERATIONS CREWS ON THE DYNAMICS OF HUMAN INTERACTION ON CREW PERFORMANCE***
- ***INITIATED COMPREHENSIVE PROGRAM TO RESOLVE ALL SIMULATOR DEFICIENCIES***
- ***PROCUREMENT PROCESS FOR SIMULATOR AUDIO/VISUAL SYSTEM HAS BEGUN***



SUBSEQUENT ACTIONS TAKEN OR IN PROGRESS
(cont.)

- ***OPERATIONS TRAINING FOR QA AUDITORS***
- ***COMPREHENSIVE OVERVIEW AND EVALUATION OF TRAINING EFFECTIVENESS BY PLANT MANAGEMENT AND SUPERVISION***
- ***ENHANCED INSTRUCTOR TRAINING TECHNIQUES***
- ***ENHANCED INSTRUCTOR STANDARDS, EVALUATION AND PROFESSIONALISM***



RESULTS ACHIEVED

- ***IMPROVED INTERFACE BETWEEN OPERATIONS AND TRAINING***
- ***IMPROVED OPERATOR PERFORMANCE DURING SIMULATED EMERGENCY EVENTS***
- ***IMPROVED COMMAND AND CONTROL DEMONSTRATED***
- ***LICENSE EXAM SUCCESS***
- ***REGION IV TRAINING INSPECTION RESULTS***



CONCLUSIONS

- ***NUMEROUS COMPREHENSIVE ACTIONS AND ENHANCEMENTS***
- ***RECENT INDICATIONS SHOW SIGNIFICANT PERFORMANCE IMPROVEMENT***
- ***TRAINING PROGRAM INITIATIVES AND IMPROVEMENTS CONTINUE TO BE MADE***
- ***EXPECT CONTINUED PERFORMANCE IMPROVEMENT***



RADIOLOGICAL CONTROLS SALP CATEGORY 2

- ***THIS RATING REPRESENTS A DECLINE FROM THE PREVIOUS RATING OF 1***
- ***PERFORMANCE OF THE RADIOLOGICAL PROTECTION STAFF WAS EXCELLENT DURING ROUTINE DAY-TO-DAY ACTIVITIES***
- ***THE DECREASE IN PERFORMANCE RATING WAS BASED ON CONCERNS IDENTIFIED WITH IMPLEMENTATION OF RADIOLOGICAL CONTROL PROGRAMS DURING THE REFUELING OUTAGE***



RADIOLOGICAL CONTROLS

- ***RADIOLOGICAL PROTECTION PROGRAM WEAKNESSES***
- ***SPECIAL WORK PERMIT PROGRAM WEAKNESSES***
- ***LIMITED ALARA GROUP INVOLVEMENT***
- ***MARGINAL PERSONNEL RESOURCES***



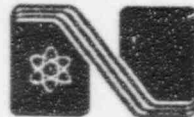
RADIOLOGICAL PROTECTION PROGRAM WEAKNESSES

- ***POOR COMMUNICATIONS, COORDINATION AND CONTROLS***
 - ***CNS RADIATION PROTECTION PROGRAM SELF ASSESSMENT***
 - ***MANAGEMENT OVERSIGHT***
 - ***RADIOLOGICAL DEPARTMENT TEAM APPROACH***
 - ***RADIOLOGICAL COORDINATORS WORK DIRECTLY FOR RADIOLOGICAL DEPARTMENT***
 - ***FEEDBACK***



RADIOLOGICAL PROTECTION PROGRAM WEAKNESSES

- ***HOT SPOT POSTING***
 - ***REVISED PROCEDURAL POSTING CRITERIA AND EMPHASIS***
 - ***HEALTH PHYSICS TRAINING PROGRAM REVIEW***
 - ***CNS RADIATION PROTECTION PROGRAM SELF ASSESSMENT***



RADIOLOGICAL PROTECTION PROGRAM WEAKNESSES

- ***REAL TIME TRACKING OF EXPOSURES***
 - ***SWP ASSESSMENT***
 - ***SWP PROCEDURE REVISIONS***
 - ***CNS RADIOLOGICAL PROTECTION PROGRAM SELF ASSESSMENT***
 - ***RADIOLOGICAL SUPPORT SYSTEM***



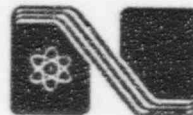
SPECIAL WORK PERMIT PROGRAM WEAKNESS

- ***FAILURE TO PROPERLY LOCATE DOSIMETRY/FAILURE TO SPECIFY MULTIPLE DOSIMETRY***
 - ***SWP ASSESSMENT***
 - ***SWP PROCEDURE REVISIONS***
 - ***PERSONNEL DOSIMETER PROGRAM PROCEDURE REVISIONS***
 - ***HEALTH PHYSICS TRAINING PROGRAM UPGRADE***
 - ***CNS RADIOLOGICAL PROTECTION PROGRAM SELF ASSESSMENT***



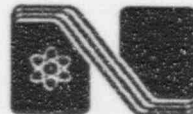
LIMITED ALARA GROUP INVOLVEMENT

- ***CNS RADIOLOGICAL PROTECTION PROGRAM SELF ASSESSMENT***
- ***THRESHOLD VERSUS PEAK STAFF REQUIREMENTS***
 - ***INCREASED WORK EVALUATION INVOLVEMENT***
 - ***INCREASED MOCKUP TRAINING INVOLVEMENT***
 - ***INCREASED FIELD OBSERVATION OF WORK***
- ***POST OUTAGE CRITIQUE***



MARGINAL PERSONNEL RESOURCES

- ***RADIOLOGICAL PROTECTION PROGRAM SELF ASSESSMENT***
- ***THRESHOLD VERSUS PEAK STAFF REQUIREMENTS***
- ***POST OUTAGE CRITIQUE***



RADIOLOGICAL SUMMARY

- ***RADIATION PROTECTION PROGRAM SELF ASSESSMENT***
- ***RADIOLOGICAL DEPARTMENT OUTAGE STAFFING***
- ***RADIOLOGICAL DEPARTMENT TEAM APPROACH***
- ***CONTINUED MANAGEMENT ATTENTION***



**NUMARC
COMPREHENSIVE PROCUREMENT
INITIATIVE
(CPI)**

- ***BACKGROUND***
- ***DEVELOPMENT OF A PROCUREMENT PROJECT PLAN (PPP)***
- ***RECEIPT OF INSPECTION REPORT 92-201***
- ***CURRENT STATUS OF THE PPP***
- ***SUMMARY***



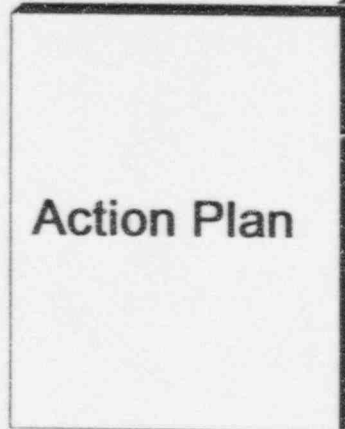
BACKGROUND

- ***ACTION PLAN***
- ***INSPECTION NOTIFICATION***
- ***MAINTAIN CPI & INSPECTION SEPARATE***
- ***INSPECTION***
- ***PROCUREMENT PROGRAM ENHANCEMENT***

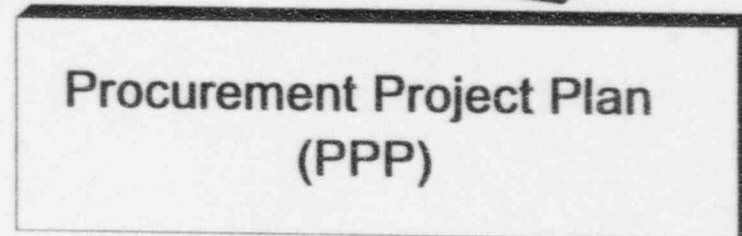


NUMARC COMPREHENSIVE
PROCUREMENT INITIATIVE
(CPI)

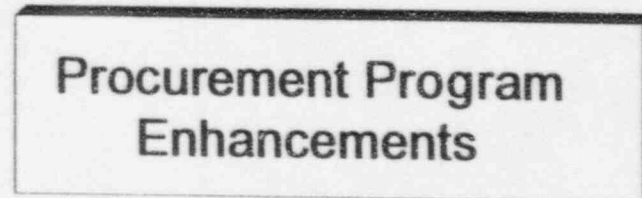
Responsibilities/Deadlines/Special Considerations



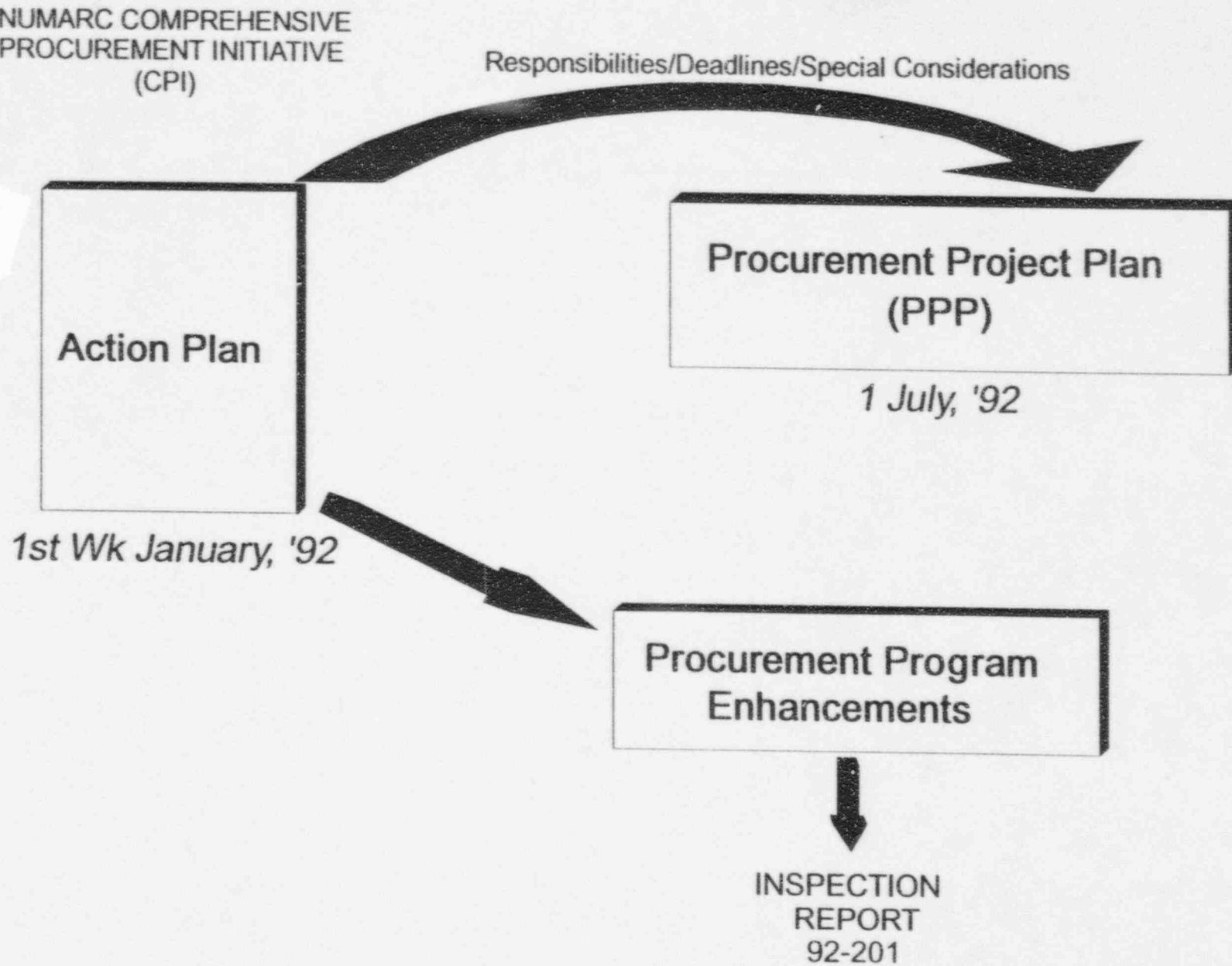
1st Wk January, '92



1 July, '92



INSPECTION
REPORT
92-201



PROCUREMENT PROGRAM ENHANCEMENTS

- **ESTABLISH PROCEDURAL REQUIREMENT TO PROVIDE FORMAL DOCUMENTATION OF CRITICAL CHARACTERISTICS AS APPLIED TO ECG PROCUREMENT**
- **FORMALIZE THE ENGINEERING PROGRAMS DEPARTMENT INDEPENDENT REVIEW OF DEDICATION PACKAGES AND ECG TECHNICAL EVALUATIONS**
- **IMPROVE TESTING AND INSPECTION CAPABILITIES**
- **REVIEW AND REVISE PROCUREMENT PROCEDURES (E.G. 3.22, 3.24, 1.13, QAI-16) AS APPROPRIATE**
- **ENHANCE QUALITY ASSURANCE SUPPLIER AUDITS**



PROCUREMENT PROGRAM ENHANCEMENTS (CONT'D)

- ***IMPLEMENT TESTING OF LUBRICANTS ALONG WITH A DEDICATION PACKAGE OR DECIDE TO PURCHASE UNDER A 10CFR50, APPENDIX B PROGRAM***
- ***PLACE A "HOLD" ON ALL ITEMS IN WAREHOUSE PURCHASED AS ECG SINCE JANUARY 1, 1990***
- ***COMPLETE FOCUSED COMMERCIAL SURVEYS OF ECG SUPPLIERS BY JANUARY 1, 1993, USING NUPIC COMMERCIAL SURVEY CHECKLIST***



DEVELOPMENT OF A PROCUREMENT PROJECT PLAN (PPP)

- ***ESSENTIAL COMMERCIAL GRADE (QUALITY COMMERCIAL GRADE)***
- ***PROCEDURES CHANGES/ENHANCEMENTS***
- ***PERFORMED LUBRICATION STUDY***
- ***UPGRADED TRAINING LESSON PLAN***
- ***EXPANDED TRENDING RECEIPT INSPECTION/TESTING FAILURES***
- ***EXPANDED TESTING AND RECEIPT INSPECTION CAPABILITIES***
- ***COMPLETED A VALIDATION OF EXISTING DEDICATION PACKAGES***



INSPECTION REPORT 92-201 RECEIPT

- **PERFORMED DETAILED REVIEW**
- **ALL CONCERNS WERE ADDRESSED PRIOR TO RECEIPT OF REPORT**
- **A MAJORITY OF THE ACTIONS WERE FULLY IMPLEMENTED PRIOR TO RECEIPT OF REPORT**
- **TWO DEFICIENCIES WERE IDENTIFIED:**
 - **GENERIC WEAKNESS IN PROCUREMENT PROGRAM**
 - **FAILURE TO ADEQUATELY DETERMINE SUITABILITY OF APPLICATION OF CGIs**



SUITABILITY OF APPLICATION OF CGI'S

- ***ALL INSPECTION FINDINGS ADEQUATELY RESOLVED***
- ***ALL DEDICATION PACKAGES REVIEWED AND ALL COMMERCIAL SUPPLIERS RE-EVALUATED WITH NO QUALITY CONCERNS***
- ***PLANT OPERATING HISTORY VERY GOOD***
- ***PROGRAMMATIC SYSTEMS ARE IN PLACE TO IDENTIFY AND/OR PRECLUDE FAILURES***
- ***PAST ENGINEERING INVOLVEMENT IN PROCUREMENT***
- ***HIGH DEGREE OF AWARENESS OF CRAFT IN UTILIZING CORRECT PARTS***
- ***STRONG WAREHOUSE CONTROL OF TAGGING AND TRACEABILITY***



CURRENT STATUS OF PROCUREMENT PROJECT PLAN

- ***EIGHT CONCERNS WERE NOT DISCUSSED DURING INSPECTION***
- ***THREE OF THESE ARE STILL BEING ADDRESSED***
- ***PROCUREMENT PROJECT PLAN IS ESSENTIALLY COMPLETE***
- ***ON GOING ACTIVITIES:***
 - ***LUBRICATION***
 - ***TESTING***
 - ***TRAINING***



SUMMARY

- ***SIGNIFICANT PROGRESS SINCE JANUARY 1, 1992***
- ***IDENTIFIED NO CONCERNS WITH MATERIALS/COMPONENTS INSTALLED IN PLANT***
- ***MEET THE JULY 1, 1992 NUMARC COMPREHENSIVE PROCUREMENT INITIATIVE COMMITMENT***



***NPPD/NRC REGION IV
MANAGEMENT MEETING***

- OPERABILITY PROGRAM IMPROVEMENTS

- DEFICIENCY REPORTING PROGRAM

JULY 7, 1992

E. M. MACE

***SENIOR MANAGER STAFF SUPPORT
COOPER NUCLEAR STATION***



DISCUSSION TOPICS

- ***OPERABILITY PROGRAM***
 - ***HISTORY OF EVENTS***
 - ***SUMMARY OF CONCERNS***
 - ***SUMMARY OF ACTIONS TAKEN***
 - ***FLOW CHART EXAMPLE***

- ***DEFICIENCY REPORTING PROGRAM***

- ***SUMMARY***



OPERABILITY PROGRAM - HISTORY OF EVENTS

- ***DECEMBER 19, 1991
BATTERY SURVEILLANCE TEST DISCREPANCY***
- ***FEBRUARY 21, 1992
NPPD/NRC REGION IV MANAGEMENT MEETING***
- ***MARCH 11, 1992
INSPECTION REPORT 92-04 ISSUED***
- ***MARCH 24, 1992
NPPD/NRC REGION IV ENFORCEMENT CONFERENCE***
- ***MAY 21, 1992
NOTICE OF VIOLATION ISSUED***
- ***JUNE 19, 1992
VIOLATION RESPONSE TRANSMITTED***



OPERABILITY PROGRAM - SUMMARY OF CONCERNS

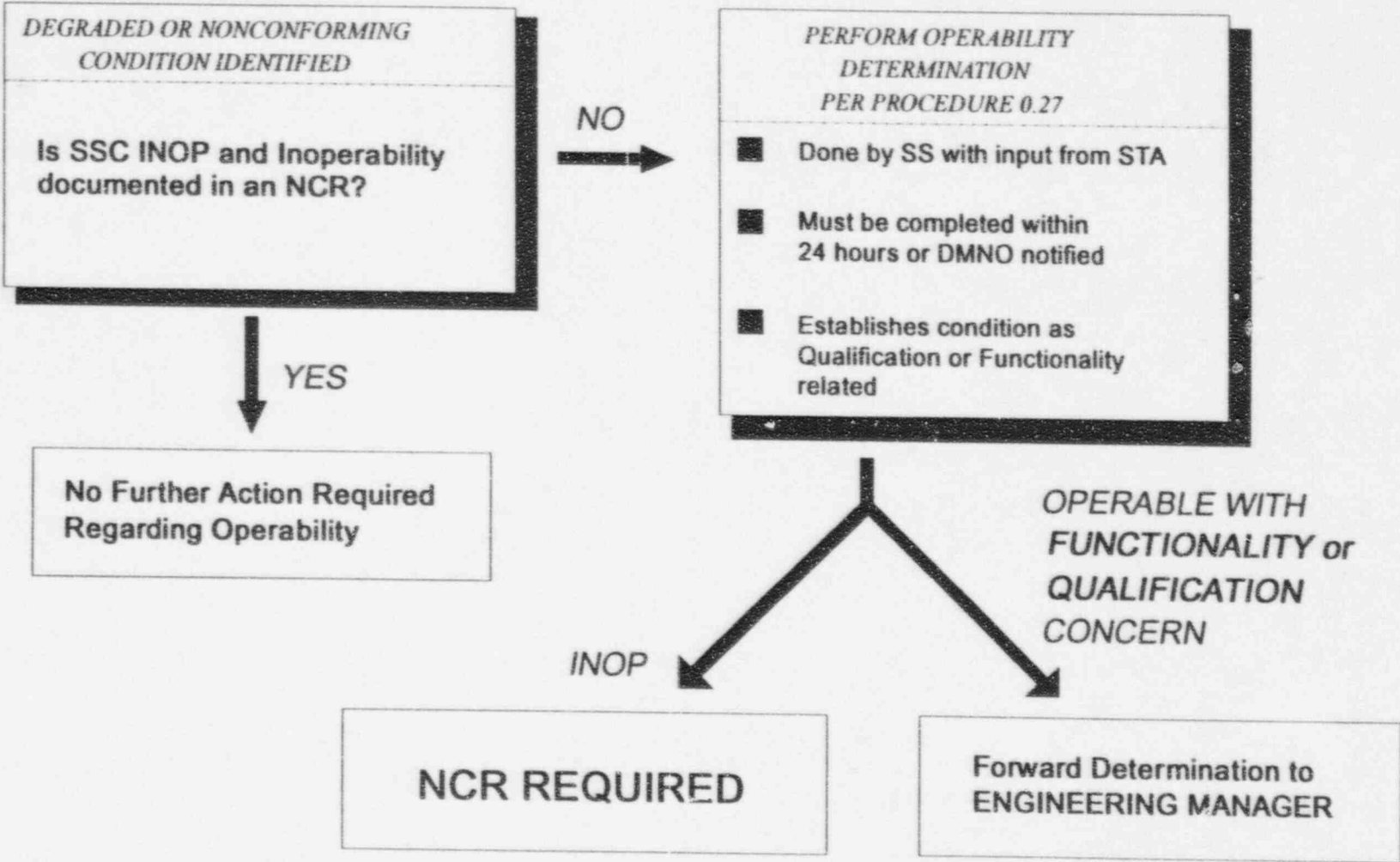
- ***LACK OF SPECIFIC GUIDANCE TO MAKE INITIAL OPERABILITY DETERMINATIONS***
- ***BASIS FOR THE OPERABILITY DECISION NOT ALWAYS ADEQUATELY DOCUMENTED***
- ***INADEQUATE SEPARATION OF OPERABILITY DETERMINATIONS FROM CORRECTIVE ACTIONS***
- ***FAILURE TO SORC REVIEW AN OPERABILITY DETERMINATION***



OPERABILITY PROGRAM - ACTIONS TAKEN

- ***IMPROVED GUIDANCE TO MINIMIZE RELIANCE ON INDIVIDUAL JUDGEMENT***
- ***DOCUMENTED ENTIRE PROCESS***
- ***CLARIFIED AND SEPARATED OPERABILITY DETERMINATIONS AND CORRECTIVE ACTIONS***
- ***ESTABLISHED SPECIFIC APPROVAL AND TIMELINESS REQUIREMENTS***
- ***INCORPORATED GUIDANCE OF GENERIC LETTER 91-18***





OPERABILITY DETERMINATION

FUNCTIONALITY CONCERN

QUALIFICATION CONCERN

ENGINEERING MANAGER
PRESENTS TO SORC

- Within 1 working day unless condition resolved, then within 5 working days
- SORC determines if additional evaluation required

YES

ENGINEERING MANAGER INITIATES
OPERABILITY EVALUATION
PER PROCEDURE 0.27.1

- Engineering Evaluation
- SORC approved within 48 hours unless condition resolved, then within 5 working days; or extended by SORC

NO

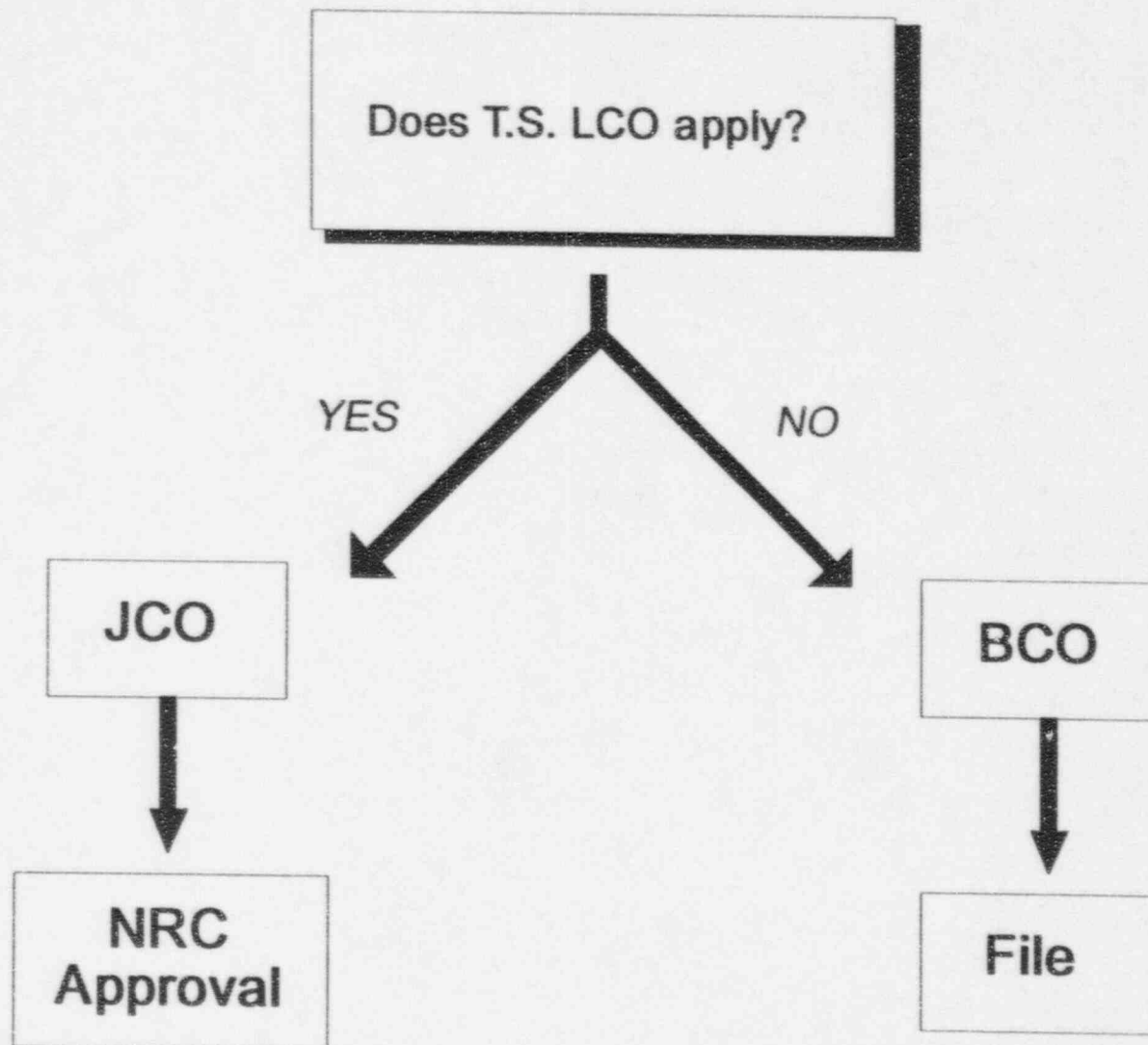
File / Additional
Corrective Action

OPERABLE
or
INOPERABLE

Cannot support continued operation

INOPERABLE

Can support continued operation



DEFICIENCY REPORTING PROGRAM

- **RELATIVELY HIGH THRESHOLD FOR NONCONFORMING ITEMS DOCUMENTED BY THE EXISTING CORRECTIVE ACTIONS PROGRAM**
 - **LESS SIGNIFICANT CONDITIONS ADVERSE TO QUALITY: PROGRAMMATIC, PROCEDURAL, AND OPERATIONAL TRANSIENT**
 - **ALLOW FOR:**
 - **TRACKING**
 - **TRENDING**
 - **INDEPENDENT ASSESSMENT**
 - **IMPLEMENTED:**
 - **USING GENERIC LETTER 91-18 GUIDANCE**
 - **USING INPUT FROM CURRENT INDUSTRY PROGRAMS**
 - **BY SEPTEMBER 30, 1992**



JLP
8/21
1992

COOPER PROBLEM SUMMARY

- Long standing mediocre performance on initial and requalification examinations.
- Annual exercise in 1991 indicated serious crew weaknesses.
- 1991 initial exams showed serious weaknesses.
- 1992 requal exams showed mediocre performance, especially C3.
- 1992 SALP report decreased from 1 to 2, with negative text.
- CNS SALP response ineffective at best in presentation to us.

REACTION PROPOSAL

- OBSERVE at least one week of the facility annual exam cycle in November, providing input to the resident's monthly report.
- Administer selected portions of the draft RQ IP TI concurrent with the DRSS 82701 module. Expected to be in the January-February time frame.

RATIONALE

- More requal exams unlikely to be revealing, plus CNS is running out of bodies not examined. Also resource intensive.
- RQ IP TI not expected until October ~ November. Best bet is workshops needed before implementing. Therefore can't plan to use before January.
- EP puts most realistic demands on crew for big event because it requires the crew management to split its attention between mitigation and EP.

A/4

July 29, 1992

NOTE TO: J. Montgomery
THROUGH: S. Collins
FROM: J. Pellet
SUBJECT: WHAT'S WRONG AT COOPER NUCLEAR STATION

During the performance review this week, you asked for a three line description of what is wrong at Cooper Nuclear Station (CNS). I have discussed this with several others, and have come to the following (-three line) conclusion.

I believe that CNS is in trouble with us because every time we try a new tool there, we find evidence of a new set of problems. They jump on them fairly effectively when they know we are watching, but we're afraid of what is below the surface.

In regulatory-safety consciousness terminology:

Due to the frequency with which our inspection and examination process has been detecting problems, we are losing confidence in their ability to aggressively identify and correct weaknesses.

The most egregious example of this was last January, when we found that they had never trained the operating staff to handle an accident and activate the emergency plan simultaneously.

During that SALP meeting, training staff talked about their wonderful command and communication conduct lesson plan and training. Which operations representatives stated would be implemented in a procedure "Real Soon Now."

Our view is that CNS is fixing these problems and others like them not because they saw the need, but because we hammered them and are following up.

*Dwight
for your
conurrence
& forwarding
to JM.*

Thanks

JJP

JJP

March 19, 1992

cc: Edward C.
Bill Beach
Cooper SALP
Management
Meeting prep
See
2/21

NOTE TO: S. Collins
FROM: J. Pellet
SUBJECT: ACTION PLAN FOR COOPER TRAINING PROBLEMS

As we discussed, I would propose the following plan of action to help us resolve our concerns about licensed operator training at Cooper (CNS) as expressed in the last quarterly meeting with the RA.

- ☐ Characterize our concerns in the SALP management meeting, and express our view that a meeting may be appropriate.
- ☐ Review their response to the SALP report, when it comes in.
- ☐ Plan on a late spring (May) meeting to review their root cause analysis, corrective actions, and proposed schedule.
- ☐ Based on the above, consider scheduling a training inspection to review their corrective actions (timing depends on their schedule).
- ☐ Based on these efforts, consider scheduling licensed operator requalification examinations in the fall of 1992. Unlikely to have available enough licenses to satisfy program evaluation criteria (12), but could schedule 6 in fall 1992 and 6 in fall 1993, rather than 12 in fall 1993.

John P. - your initiatives have been placed on CNS insp. plan. Please work with DRP to schedule meeting. Thy
~~Date-~~
See 3/1/92

cc: T. Stetka
P. Harrell



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV

611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

FEB 19 1992

MEMORANDUM FOR: Distribution
FROM: Samuel J. Collins, Director, Division of Reactor Safety (DRS)
SUBJECT: FEBRUARY 6, 1992, DRS QUARTERLY REVIEW-ACTION ITEMS

As a result of the February 6, 1992, DRS Quarterly Performance Review, the following action items are assigned as noted below:

- MQPS - I. Barnes: Assess the need, and draft a proposal, for a Region IV regional initiative inspection utilizing contractor support to review plant water chemistry and erosion/corrosion programs.
- TPS - J. Gagliardo: Assess the need, and draft a proposal, for a Region IV regional initiative inspection utilizing contractor support to review plant fire protection programs.
- OLS - J. Pellet: Coordinate with DRS/OPS and the Division of Reactor Projects to discuss the Cooper operator license training program status. Schedule a meeting with the Regional Administrator to review the results.
- PSS - T. Westerman: Continue site engineering Region IV regional initiative inspections and provide a summary of results memo with the findings and perceptions of strengths and weaknesses.
- Director - Collins: Issue an update to the DRS Areas of Responsibility memorandum.

A progress report on these initiatives will be provided to the Regional Administrator by the assigned sponsor at the May 5, 1992, DRS Quarterly Performance Review.

Samuel J. Collins
Samuel J. Collins, Director
Division of Reactor Safety

Distribution:
DRS Staff
R. Martin
A. Beach

OLS QUARTERLY PERFORMANCE MEETING

FIRST QUARTER FY1992

Major Safety Findings

- FCS OL performance very good - IN & RQ
 - Major turn-around in staffing numbers & requal performance
 - Good EP performance recent inspection
- CNS operator performance and mgmt reactions weak.
 - Problems in C3 & classification
 - Training & mgmt seem slow to identify/react
 - No better than adequate
 - Next exams in May - I'll head
 - Covered in SALP input
- RB lic op HP adherence improved, procedures weak on specifics
 - Operators at risk when procedures incomplete or too general
 - Slow to correct EP procedure difficulty over 2 years
 - Planning to add 2 LSRO-FH for this outage

Inspection Program

- Developing proposal to consolidate EP WT & RQ Sim - concrete proposal by end of FY

Personnel Issues

- SM very adept at seeing safety consequences & writing up
- RL progressing nicely to cert in June - should be CE/W combined.
- OLA selection close.

cc: Duvalto C.
Full Search

10/11
A

March 19, 1992

See Cooper SALP
Management
Meeting prep.
See
E121

NOTE TO: S. Collins
FROM: J. Pellet
SUBJECT: ACTION PLAN FOR COOPER TRAINING PROBLEMS

As we discussed, I would propose the following plan of action to help us resolve our concerns about licensed operator training at Cooper (CNS) as expressed in the last quarterly meeting with the RA.

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cc: T. Stetka
P. Harrell

SYNOPSIS OF CNS LICENSED OPERATOR ISSUES

- ⊗ 1989 requal report cited weak C3 (from Morris simulator), ineffective trng, & mediocre opearator performance.

Series of management meetings held in response.

- ⊗ May 1991 first simulator exams @ site (initial). Telephone reexit on poor applicant performance in diagnosis, communications, & event-focused response.

Management meeting on weaknesses in August. ✓

- ⊗ Summer 1991 EP exercise cited big problems with C3.
- ⊗ August, 1991 training inspection found operator-training dysfunction and consequent ineffective trng.
- ⊗ November 1991 RQ rpt (out 2/10/92) cited C3 & EP.
- ⊗ January 1992 EP inspection cited C3 & EP weaknesses.
- ⊗ Three different Chief Examiners, two different EP teams.

• ~~Medics~~ Perf.

• May 1992 Retake
- Avg Perf

• Training Insp - J. Whitmore
- Better but a way to go.



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV

611 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TEXAS 76011

JAN 27 1992

MEMORANDUM FOR: A. B. Beach, Director, Division of Reactor Projects

VIA: D. D. Chamberlain, Director (acting), Division of Reactor Safety

FROM: J. L. Pellet, Chief, Operator Licensing Section

SUBJECT: DRS INPUT TO COOPER NUCLEAR STATION (CNS) SALP (OPERATIONS SECTION)

During this SALP period, 12 applicants were examined for initial licenses and 12 licensed operators were given requalification examinations on four separate examination visits. There are currently 32 SROs and 7 ROs licensed at the CNS facility.

At the end of the previous SALP period the principal concern held by operator licensing was that overall operator performance was marginal and that training resources were inadequate. During this SALP period, some improvements have been observed. Most notable are those in the training resources. It was identified in the last training inspection (Inspection Report 50-298/91-16) that, in addition to enlarging the training staff through direct hiring and contracting, CNS implemented a program whereby four licensed operators from the operations department are rotated into the training department for two year assignments. There were three licensed operators filling the four available positions at that time. The training department also implemented a formal communication process between the operations and training department management staffs to improve training quality and focus. At the management level this appears to be working satisfactorily. However, licensed operators in the operations department expressed various negative concerns regarding the training department staff and implied that their observations, feedback, and concerns were being ignored or overlooked on a routine basis. The inspection report cited a number of training improvement initiatives begun by the facility licensee. However, it also pointed out that many of these initiatives were considerably overdue. As an example, the first revision to the Job Task Analysis (JTA), since initial INPO accreditation in 1987, was not begun until after a re-accreditation visit in June 1991. This contributed to poor learning objectives, inadequate lesson plans, and an ill defined training cycle content. The requalification examination report (50-298/OL 91-02) noted improvement in materials used for examination development but cited continued general weakness in the materials which support each part of an examination.

The plant reference simulator also became operational during this SALP period. The training staff has been cited as effective in using the simulator for both training and evaluation in the most recent training inspection and requalification examination reports with one significant exception. In virtually every activity where CNS operators were observed by NRC personnel in a dynamic simulator environment, command, control, and communication skills were identified as weak or deficient. The facility licensee evaluators and training management have only recently acknowledged this as a valid observation and begun to address it. This deficiency has contributed to two

initial license applicant failures, a crew failure in the recent requalification examination, and weakness findings in the most recent Emergency Plan (EP) preparedness exercise and subsequent inspection.

In the operational area, two major areas are cause for concern. The first being that of command, control, and communication. Examination Report 50-298/OL 91-01 cited weak communications among the crews examined for initial licenses, some of whom were licensed operators applying for senior license. During that same examination, senior operator applicants were observed going behind panels during emergency events to read indications, failing to recognize that all panel operators were at the back panels simultaneously, or failing to recognize the scope of problems as a result of undisciplined communication. Inspection Report 50-298/91-12, for the July 1991 EP exercise, reported that the control room supervisor neglected supervisory responsibilities by walking down back panels during the casualty, failed to realize that an operator performing an EDG surveillance left the control room while the surveillance was still in progress, and failed to provide clear supervision to the panel operators. During the exercise, the shift supervisor was reported as not assertive in controlling control room activities and disseminated incorrect information affecting EP response to organizations outside the control room or off-site as a result of weak information exchange (lack of repeat-back or verification). Finally, examination report 50-298/OL 92-01, cited command, control, and communication as a major contributor to a crew failure during the requalification examinations.

The second area involves the ability of operators and crews to monitor and diagnose equipment and plant conditions and take appropriate action. All three of the reports referenced in the preceding paragraph have cited evidence of a generic lack of diagnostic skill among operators. The EP exercise report referenced the previous EP exercise report (50-298/9025-02) wherein the crew did not adequately monitor suppression pool parameters, and failed to recognize the unavailability of the HPCI pump. During the most recent EP exercise the crew failed to observe and investigate a diesel generator trip during a surveillance test but declared the surveillance complete when it was noticed that the EDG was no longer running. Additionally, TSC personnel exhibited diagnostic and evaluation weaknesses during the same exercise. During the May 1991 initial license examinations, none of the three crews examined were able to recognize a natural circulation condition from control room indications. As a result, two crews continued to operate at a significant power level when a reactor trip was procedurally required. This reduced the safety margin for events exacerbated by a natural circulation condition. During that same examination, panel operators exhibited poor annunciator monitoring discipline particularly after a major casualty. This contributed, in part, to the failure to diagnose the loss of the operating recirculation loop. During the recent requalification examinations, panel operators on one crew failed to recognize that the HPCI pump was available in manual control, while a demand for HPCI existed. As a result, the crew secured the pump and degraded recovery actions. The causes for a RCIC pump trip and condensate pumps trip were improperly diagnosed which would have hindered recovery of those components if needed as part of preferred recovery actions. This area of weakness has not been observed to be as wide spread among crews as the command, control, and communication weakness. However, it has been observed consistently between experienced and inexperienced operators alike in a variety of operational settings.

These operational weaknesses could significantly impede accident mitigation and recovery. This would be particularly true if multiple malfunctions, similar to previously reported industry events, occurred concurrently (which has occurred at other plants). The facility licensee has acknowledged the weakness in command, control, and communication and focused attention on it. However, there is no evidence that the facility licensee is aware that an apparent weakness exists in operator diagnostic and evaluation ability.

The operator licensing perception of CNS engineering and technical support and operations from our perspective may be summarized as follows:

ENGINEERING AND TECHNICAL SUPPORT

Several weaknesses still exist in the licensed operator training function. However, there has been notable improvement in a variety of areas affecting training effectiveness.

OPERATIONS

Weaknesses in command, control, and communication are widespread and significant. Facility licensee ability to address this weakness can only be measured on the basis of past performance in similar matters since the facility licensee has only just now acknowledged this weakness area. The facility licensee has a history of tardiness in self-evaluation in many areas.

An apparent weakness in operational diagnostic and evaluation skill has begun to emerge in a variety of operational settings. This apparent weakness when coupled with command, control, and communication weaknesses could complicate accident mitigation and recovery. However, there is no indication at this time that safe operation is threatened.

If additional information is required, please contact me or Steve McCrory, principle examiner for CNS.

J. L. Pellet, Chief
Operator Licensing Section

cc: S. Collins
T. Stetka
S. McCrory
✓ P. Harrell

~~PREDECKSTOZAA~~

PROPOSED AGENDA

NRC MANAGEMENT MEETING WITH NEBRASKA PUBLIC POWER DISTRICT
TO DISCUSS EMERGENCY PREPAREDNESS

OCTOBER 30, 1992
REGION IV OFFICE

- | | | |
|------|---|-----------------------------|
| I. | INTRODUCTION AND PURPOSE OF MEETING | Joe Callan |
| II. | DISCUSSION OF EMERGENCY PREPAREDNESS FINDINGS FROM SEPTEMBER EXERCISE | Blair Spitzberg, NRC staff |
| III. | LICENSEE DISCUSSION OF EMERGENCY PREPAREDNESS FINDINGS AND CORRECTIVE ACTIONS | Guy Horn, NPPD staff |
| IV. | DISCUSSION OF EMERGENCY PLAN REVISION 18, COMBINING OSCs | Blair Spitzberg, NPPD staff |
| V. | CLOSING REMARKS | Joe Callan |

A/S

COOPER NUCLEAR STATION
MANAGEMENT MEETING
OCTOBER 30, 1992

PURPOSE OF MANAGEMENT MEETING:

To discuss weaknesses identified in the licensee's emergency preparedness program and its capabilities to properly implement the emergency plan and implementing procedures.

OVERVIEW OF NRC MANAGEMENT'S CONCERNS:

During the recent emergency preparedness exercise, several weaknesses were identified. The weaknesses are of concern to NRC because if they were to occur during an actual emergency, certain important emergency response functions could be delayed or not properly implemented. These problems are also of concern because in the past 14 months, several other concerns and weaknesses have been identified as a result of routine inspections, and in one case, as a result of the actual implementation of the emergency plan. Many of the problems are in areas which are fundamental to ensuring a proper response to emergencies. For example, recurring problems have been identified in the licensee's capabilities to perform accurate and timely emergency classifications, notifications, and assessments.

Following the emergency exercise in 1991 during which six weaknesses were identified, we held a management meeting here to discuss our concerns at that time. During the meeting a detailed package of corrective measures was presented. During a routine inspection of the operational status of emergency preparedness conducted in January 1992, four weaknesses were identified, again in important areas fundamental to effective emergency response including classification, notifications, dose assessments, and protective action

recommendations. Following this inspection, a teleconference was held to discuss licensee commitments for immediate corrective action.

The licensee's July 1992 SALP Action Plan, detailed the aggressive corrective actions being implemented to address the previously identified weaknesses. The completed or proposed corrective measures included a self-assessment study of emergency command and control; establishment of an Emergency Preparedness Task Force to recommend changes in areas needing improvement; the implementation of enhanced training for emergency response personnel; and the revision of certain procedures. The SALP Action Plan also pointed to indicators of the effectiveness of the corrective action initiatives. For example, the Action Plan referenced the effective implementation of appropriate classifications and notifications performed during three actual Notification of Unusual Events declared. On July 30, 1992, however, a Notice of Unusual Event was declared where it was later determined that the classification was delayed, and a violation occurred because of the untimely notification of offsite authorities.

More recently, during the September 1992, emergency exercise, five more weaknesses were identified. Among them was a repeat weakness in the area of analysis and technical assessment of plant conditions, and weaknesses related to classification, and notifications.

NRC management is concerned about the pattern of emergency preparedness problems which have been identified over the past 14 months. NRC management is also concerned that the many corrective measures which have been undertaken have not resulted in significant improvements in preventing these problems.

COOPER NUCLEAR STATION

EMERGENCY PREPAREDNESS INSPECTION FINDINGS
OVER THE LAST 14 MONTH PERIOD
JULY 1991 - OCTOBER 1992

1. SEPTEMBER 1992 EMERGENCY EXERCISE (REPORT 298/92-14):

- Repeat Exercise Weakness (298/9112-01): Analysis and technical assessment of plant conditions.
- Exercise Weakness (298/9214-01): Failure to take steps to ensure continued habitability in the TSC/OSC.
- Exercise Weakness (298/9214-02): Failure to detect and classify General Emergency conditions promptly. Note - A similar weakness was identified following the July 30, 1992 NOUE for a delay in classifying NOUE conditions (50-298/92-15, paragraph 6.a).
- Exercise Weakness (298/9214-03): Failure to approve notification messages properly and failure to complete notifications in a timely manner. Note - A violation was identified for untimely notification following the July 30, 1992 NOUE (50-298/92-15). In addition, the 1992 operational status inspection identified a weakness for failure to make complete and accurate notifications.
- Exercise Weakness (298/9214-04): Lack of guidance for resolving conflicts between two dose assessment methods.

2. JULY 30, 1992 NOTICE OF UNUSUAL EVENT (REPORT 298/92-15):

- Violation (298/9215-01): Notifications to offsite authorities of NOUE were not completed within 15 minutes.

Current Status: Open/unreviewed.

Licensee corrective action commitments: Not received. Due October 29, 1992.
- Weakness (no tracking no. assigned): Delay in classifying unusual event.

3. JANUARY 1992 OPERATIONAL STATUS INSPECTION OF EMERGENCY PREPAREDNESS (REPORT 298/92-01):

- Weakness (298/9201-01): Weak Emergency Classification. Examples included failure of one crew to recognize NOUE conditions; underclassification by one crew of General Emergency conditions; failure of one crew to properly diagnose fission product barrier status.

Current Status: Open/unreviewed.

Licensee corrective action commitments: Retraining and reevaluating of operating crews. Enhancing classroom EAL training and dynamic simulator emergency response training during requals.

- Weakness (298/9201-02): Failure to make complete and accurate notifications.

Current Status: Open/unreviewed.

Licensee corrective action commitments: Retraining and reevaluating operating crews. Revising notification procedure to streamline the notification form and reassign responsibility for completing the form to the shift communicator. Enhance dynamic simulator training.

- Weakness (298/9201-03): Weak dose assessments from the control room.

Current Status: Open/unreviewed.

- Weakness (298/9201-04): Weak formulation of PARs.

Current Status: Open/unreviewed.

4. JULY 1991 EMERGENCY EXERCISE (REPORT 298/91-12):

- Exercise Weakness (298/9112-01): Weak technical assessment from the TSC involving core damage assessment, evaluation of release path, use of old radiological data, and awareness of electrical system status.

Current Status: Open.

Licensee corrective action commitments (letter 9/30/91):

- 1) Perform in-depth self assessment of command and control in TSC.
- 2) Revise EPIP 5.7.17 to include core damage assessment using containment rad. readings.
- 3) Revise TSC Director's checklist to prompt formation of multi-discipline assessment teams.
- 4) Issue radios to HP technicians for more prompt communications of rad. conditions.
- 5) Provide separate status boards in TSC for mechanical and electrical function status.
- 6) Enhance TSC drills to emphasize technical assessment.

- Exercise Weakness (298/9112-02): Weak command and control in the control room and TSC.

Current status: Closed.

- Exercise Weakness (298/9112-03): Weak coordination and radiological practices of in-plant teams.
Current Status: Closed.
- Exercise Weakness (298/9112-04): Weak offsite radiological assessment.
Current Status: Closed.
- Exercise Weakness (298/9112-05): Weak exercise preparations.
Current Status: Closed.
- Exercise Weakness (298/9112-06): Weak self-critique.
Current Status: Closed.

A management meeting was held with the licensee on October 10, 1991 at RIVs request to discuss the emergency preparedness findings identified during the 1991 exercise.

NEBRASKA PUBLIC POWER DISTRICT
NUCLEAR REGULATORY COMMISSION REGION IV

MANAGEMENT MEETING

EMERGENCY PREPAREDNESS

OCTOBER 30, 1992



A/b

Statement of Weakness 9112-01:

- *"The analysis and technical assessment of plant conditions was identified as a repeat exercise weakness first identified during the 1991 Emergency Exercise."*



1991 Technical Assessment Weakness:

- **Core Damage Assessment**
 - *Improper use of existing procedures.*
 - *Adequate procedures did not exist.*

- **Release Path Evaluation**
 - *Evaluation was fragmented.*
 - *All related indicators not analyzed.*

- **Radiological Data**
 - *Timing was "off".*

- **Status Boards**
 - *Accuracy degraded over time.*



1992 Technical Assessment Weakness:

■ *Core Damage Assessment*

- *Indications of "some" cladding damage.*
- *Indications were "conflicting".*

■ *Release Path Evaluation*

- *Received indications path had been isolated.*
- *Continued to pursue backup isolation, which diverted resources.*

■ *Turbine/Generator Diagnosis*

- *Diagnosis and mitigating actions were delayed, which aggravated the radiological conditions.*



Comparison of Technical Assessment Weaknesses:

■ *1991 Results*

"Some technical assessments appeared misdirected or were based on inappropriate information."

■ *1992 Results*

Desired results were achieved; however, priorities and timeliness of results were not always proper.

■ *Overall*

Basic improvements have been realized, but need further refinements.



Cause:

- *Resources focused on "primary" problems -
Prioritization and communication of "secondary"
problems not timely.*



Corrective Actions:

- *Upgrade Emergency Response Organization*
 - *Plant Manager remains in TSC.*
 - *Site Manager in EOF.*

- *Revise Guidance Documents and Conduct Position-specific Training.*
 - *Address accident management techniques.*

Schedule:

- *Complete by March 1993*



Statement of Weakness 9214-02:

- ***"The failure to detect and classify General Emergency conditions promptly was identified as an exercise weakness."***



Assessment:

■ ***Dose Assessment***

- ***One indicator (ADAM) supported General Emergency declaration.***
- ***Several indicators (Dose, Hand Calculations, Drywell Rad Levels, Turbine Building Kaman readings) did not.***

■ ***Core Damage Assessment***

- ***Indications of "some" cladding damage.***
- ***Determination of degree of damage depended on field team or PASS data.***

Results: General Emergency not declared until conditions confirmed by field team data.



Causes:

- *Insufficient Procedural Guidance*
- *Lack of Training for "Low Threshold" Events*



Corrective Actions:

- ***Revise Guidance Documents and Conduct Position-specific Training for "Low Threshold" Core Damage Events***
 - *Add more degraded core symptoms.*
 - *Clarify 1% criterion.*
 - *Clarify use of "Most Conservative" dose model results.*
 - *Add "Low Threshold" event scenarios to future training and drills.*

Schedule:

- ***Complete revisions by January 1993, include in scheduled emergency preparedness training after that point.***



Violation 9215-01:

- *"A weakness in the licensee's decision making process resulted in delays in making the emergency classification associated with the emergency core cooling system single failure vulnerability. Additionally, offsite notifications were not completed within the required time limits."*



Assessment:

■ *Design Basis Issue Reviewed and Dispositioned by SORC*

- *Validity established.*
- *ECCS inoperability confirmed.*
- *Technical Specifications requirements addressed.*
- *Schedule for power reduction established.*

■ *Control Room Activities*

- *Shift Supervisor briefed by Operations Manager.*
- *Power reduction ordered during briefing.*
- *Briefing occupied too much time.*
- *Missouri SEMA communications problem.*

Result: NOUE declaration not timely and notification not completed in required time.



Causes:

- *SORC/Shift Supervisor Communications*
- *Missouri SEMA Notification Process*



Corrective Actions:

- *Discussed Event with SORC and Shift Supervisors*
- *Revising Procedure 0.3, SORC, to Require Shift Supervisor Involvement When Reviewing Issues Which May Affect Operational Status*
- *New Notification Arrangement Established with Missouri - SEMA*
 - *Changed answering service.*
 - *Procured new pagers.*
 - *Added Backup Duty Officer.*
 - *Revised Duty Officer's response manual.*
 - *Re-trained Duty Officers.*

Schedule:

- *New Procedure Revision by December 1992*



Statement of Weakness (298/9214-01):

- **FAILURE TO TAKE STEPS TO ENSURE TECHNICAL SUPPORT CENTER/OPERATIONAL SUPPORT CENTER CONTINUED HABITABILITY DURING A RELEASE WAS IDENTIFIED AS AN EXERCISE WEAKNESS.**



Assessment:

- ***PROCEDURES REQUIRE PERIODIC HABITABILITY MONITORING OF THE TSC/OSC.***
- ***THE TSC IS DESIGNED FOR POSITIVE PRESSURE.***
- ***THE CAM AND THE ARM ARE POSITIONED BENEATH AIR SUPPLY REGISTERS.***
- ***NO INDICATIONS OF DEGRADING HABITABILITY CONDITIONS.***
- ***CHEM/HP COORDINATOR DETERMINED IT WAS NOT NECESSARY TO ACTIVATE HEPA FILTERS.***



Corrective Action:

- ***EPIP 5.7.7 WILL BE REVISED TO ACTIVATE HEPA FILTERS UPON ACTIVATION OF TSC AND RELOCATE CAM.***
- ***RADIATION SHIELDING DOORS WILL BE CLOSED WHEN RADIATION SURVEYS INDICATE NEED.***
- ***THE EPIP WILL BE REVISED BY 12/1/92.***



Statement of Weakness (298/9214-03):

- **THE FAILURE OF THE LICENSEE TO APPROVE INITIAL NOTIFICATION MESSAGES PROPERLY TO STATE AND LOCAL GOVERNMENT AGENCIES AND THE FAILURE TO COMPLETE THE INITIAL NOTIFICATION PROCESS IN A TIMELY MANNER WAS IDENTIFIED AS AN EXERCISE WEAKNESS.**



Assessment:

AT SITE AREA EMERGENCY:

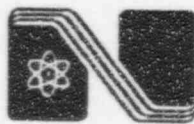
- ***EMERGENCY DIRECTOR WAS IN THE CONTROL ROOM, COMMUNICATOR RESPONSIBILITY WAS IN THE TSC.***
- ***TSC DIRECTOR SIGNED NOTIFICATION FORM.***



Assessment (Con'd):

AT GENERAL EMERGENCY:

- *EOF OFF-SITE COMMUNICATOR FILLED OUT SECTIONS 6-8 OF THE NOTIFICATION FORM.*
- *EOF OFF-SITE COMMUNICATOR SPENT TIME GATHERING INFORMATION FROM THE DOSE ASSESSMENT PERSONNEL.*
- *EOF DIRECTOR SIGNED THE NOTIFICATION FORM FOLLOWING RECEIPT OF VERBAL APPROVAL OF PARS FROM ED.*



Root causes:

- **PROCEDURE TOO RESTRICTIVE**
- **LESS THAN ADEQUATE TRAINING FOR NOTIFICATION FROM EOF.**



Corrective Action:

- **CONDUCTED REMEDIAL TRAINING FOR THE OFF-SITE COMMUNICATORS.**
- **EPIP 5.7.6 WILL BE REVISED TO ALLOW THE FACILITY DIRECTORS TO SIGN THE INITIAL NOTIFICATION FORMS WITH EMERGENCY DIRECTOR VERBAL APPROVAL.**
- **THE REVISION WILL BE COMPLETED BY 12/1/92.**



Statement of Weakness (298/9214-04):

- ***THE USE OF TWO DOSE ASSESSMENT PROGRAMS FOR DECISIONMAKING PURPOSES WITHOUT CLEAR GUIDANCE ON RECONCILING CONFLICTING RESULTS WAS IDENTIFIED AS AN EXERCISE WEAKNESS.***



Assessment:

- *BASED ON EXISTING PROCEDURES, THE INPUTS TO ADAM AND CNS-DOSE WERE CORRECT.*
- *THE ADAM NON-DEGRADED CORE SOURCE TERM WAS INCORRECT RESULTING IN OVERLY CONSERVATIVE (HIGH) DOSES.*
- *PROCEDURAL GUIDANCE DIDN'T PROVIDE SUFFICIENT DEGRADED CORE TRIGGERS.*



Weakness:

- ***THERE IS NO GUIDANCE PROVIDED FOR INSTANCES WHEN THE MODEL RESULTS DON'T MAKE SENSE OR CORRELATE WITH ANY OTHER INDICATIONS.***



Corrective Action:

- **PROVIDE PROCEDURAL GUIDANCE AND IMPROVED TRAINING:**
 - **ON THE USE OF BOTH MODELS,**
 - **TO ACT ON MOST CONSERVATIVE MODEL RESULTS, IN THE EVENT OF A RELEASE EXCEEDING LICENSE LIMITS.**
- **CORRECT ADAM SOURCE TERM CODE ERROR.**
- **COMPLETE ABOVE BY 2/1/93.**



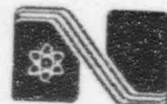
NEBRASKA PUBLIC POWER DISTRICT
NUCLEAR REGULATORY COMMISSION REGION IV

MANAGEMENT MEETING

LICENSED OPERATOR TRAINING

E. M. MACE
SENIOR MANAGER SITE SUPPORT

OCTOBER 30, 1992

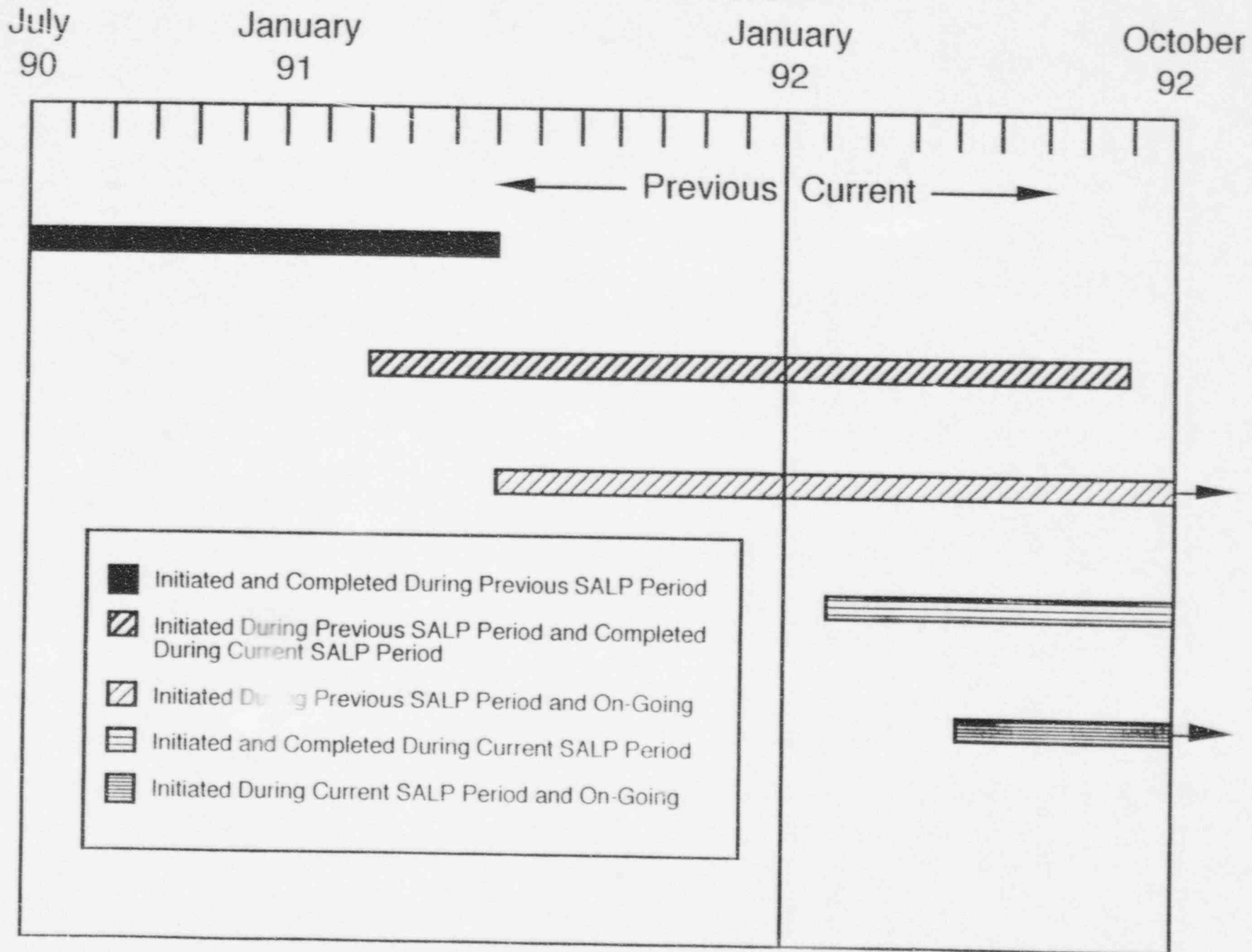


LICENSED OPERATOR TRAINING PROGRESS AND DIRECTION

- *Initiated and Completed During Previous SALP Period*
- *Initiated During Previous SALP Period and Completed During Current SALP Period*
- *Initiated During Previous SALP Period and On-Going*
- *Initiated and Completed During Current SALP Period*
- *Initiated During Current SALP Period and On-Going*



Licensed Operator Training Progress and Direction



**INITIATED AND COMPLETED DURING PREVIOUS
SALP PERIOD**

- *Licensed Operator Training Enhancement Plan* *July '90*
- *INPO Re-accreditation* *July '90 - June '91*
- *Simulator Certified to ANSI/ANS 3.5* *November '90*



**INITIATED DURING PREVIOUS SALP PERIOD AND
COMPLETED DURING CURRENT SALP PERIOD**

■ **Licensed Operator Instructor Staffing**

Jul. '90 - Apr. '92

- *SRO rotation program*
- *Full District staffing*

■ **Simulator Initial Update**

Oct. '90 - May '92

- *5/88 freeze through 1990 outage*
- *\$1.3 million / 165 packages*



**INITIATED DURING PREVIOUS SALP PERIOD AND
COMPLETED DURING CURRENT SALP PERIOD**

- **Shift Supervisor Training Program** **Mar. '91 - Sept. '92**
 - *Developed to INPO guidelines*
 - *All incumbent shift supervisors certified*

- **Initial Licensed Operator Training Upgrade** **May '91 - Sept. '92**
 - *Resulted from 5/91 exam failure*
 - *Revised simulator training material*
 - *Classroom/simulator training*



**INITIATED DURING PREVIOUS SALP PERIOD AND
COMPLETED DURING CURRENT SALP PERIOD**

- Simulator PMIS Upgrade Sept. '91 - Feb. '92
 - Human factors match to plant

- Computer-Based Written Exam Bank Oct. '91 - Apr. '92
 - 7000 questions
 - Development and tracking

- Simulator Discrepancy Report Cleanup Nov. '91 - May '92
 - 155 DR's (180 now exist)
 - Licensed operator and instructor feedback



**INITIATED DURING PREVIOUS SALP PERIOD AND
ON-GOING**

- **Training Program Upgrade to SAT Process** **Aug. '90 - On-going**
 - ***Training task lists completed in 3/92***
 - ***Consensus review of K & A's to be completed by 3/93***



INITIATED DURING PREVIOUS SALP PERIOD AND ON-GOING

■ Instructor Performance Improvements

Jun. '91 - On-going

- *Completed simulator instructor training in 11/91*
- *Implemented NTG-311 (Post-Evaluation Critique)*
- *Implemented NTG-318 (Command/Control) Station Proc. for ops issued*
- *Completed advanced simulator instructor training in 9/92*
- *Advanced diagnostic skills training completed by 12/92*



INITIATED DURING PREVIOUS SALP PERIOD AND ON-GOING

- Continuing Training Program Assessment Aug. '91 - On-going
 - *Implemented CNS Directive 54, Management Overview of Training and Evaluation Activities*
 - *Milestone progress review*
 - *Periodic operations/training meetings*
 - *Periodic debrief of initial license candidates*



**INITIATED DURING PREVIOUS SALP PERIOD AND
ON-GOING**

- **Annual Regual Exam Material Upgrade** **Nov. '91 - On-going**
 - **JPM bank completed in 7/92** (*r100, 33 in-plant*)
 - **Static simulator exam bank completed in 8/92** (*28 exams*)
 - **Open reference exam bank completed by 11/92** (*1560 Sect B*)
 - **Dynamic simulator exam bank completed by 12/92** (*30 exams*)



INITIATED AND COMPLETED DURING CURRENT SALP PERIOD

■ Simulator Audio-Visual Installation Feb. '92 - Oct. '92

- *Installation/testing completed in 10/92*

■ INPO Team Skills Training Feb. '92 - Mar. '92

- *Improve crew team performance*
- *Improve crew command/control and communications*

Considerable op. resist. initially, but well rec'd.



**INITIATED AND COMPLETED DURING CURRENT
SALP PERIOD**

■ **First In-House Simulator Modification**

May '92 - Oct. '92

- **149 modification packages, through 1991 outage**
- **Maintained > 96% availability for training**



INITIATED DURING CURRENT SALP PERIOD AND ON-GOING

- Emergency Plan Operator Performance *Jan. '92 - On-going*
 - *Moved from table-top to simulator training*
 - *Incorporated enhanced EP training in each training cycle*

- Instructor Performance Monitoring *May '92 - On-going*
 - *Annual Training Supervisor observations increased from 1 to 3*
 - *Established an Instructor TERC*
 - *Implemented TMP-07, Instructional Standards*
 - *Implemented INPO-based instructional observation training*



INITIATED DURING CURRENT SALP PERIOD AND ON-GOING

■ Accelerated Learning *Jul. '92 - On-going*

- *Started training upper Training Management*

■ Crew Performance Trending *Oct. '92 - On-going*

- *Implemented crew competency performance trend*
- *Management review/intervention*



CONCLUSIONS

- *Numerous Comprehensive Actions and Enhancements*
- *Recent Indications Show Improvement in Performance and Ownership of the Licensed Operator Training Program*
- *Training Program Initiatives and Improvements Continue*
- *Expect Continued Performance Improvement*



NOTE TO: J. E. Gagliardo
THROUGH: J. L. Pellet
FROM: J. M. Keeton *JMK*
SUBJECT: Unannounced Inspection to Observe Cooper Operators and Training Staff during Requalification Examinations

Inspection Dates: November 4-5, 1992

Reference Procedure: Module 92701-02.04 and Draft of TI for Licensed Operator Requalification Program Evaluation

Inspection Results

On November 4 and 5, 1992, Wayne Walker and myself performed an unannounced follow up inspection to determine if the licensee was addressing previously identified weaknesses. The inspection was accomplished by observing segments of the facility's scheduled requalification examination, interviewing on-shift supervisors, and reviewing training and testing material. Also, the licensed operators were observed during the simulator examinations to determine if they were conducting activities in a manner conducive to protection of the public health and safety.

The following previously identified weaknesses (from report 50-298/OL 91-02) were specifically addressed either by direct observation, interviews, or by reviewing training program records:

- o Crew command, control, and communication.
- o Adequacy of simulator scenarios.
- o Operators' ability to establish shutdown cooling.
- o Operators' ability to diagnose conditions.

Communications weaknesses were evident as indicated by the following examples:

- o During the first scenario observed, the supervisor directing panel activities was not concise in his directives. He read the procedures to the operators rather than giving them the procedure to perform. This was accomplished differently by other supervisors, which demonstrates lack of uniformity in communication among crews.
- o During the second scenario, a different supervisor directed an operator to establish torus spray. The operator could not get torus spray started and did not inform the supervisor, who assumed that the torus was being sprayed.

The communications problems observed were compensated by actions of the operators such that safety problems did not develop and mitigation strategies were not degraded. The facility managers stated that an ongoing effort was being made to improve communications. This was primarily being done in the evaluation sessions during the requalification training. There was no formal classroom presentation geared to defining a communications policy.

A/S

Command and control was another area where weaknesses had been identified. This area was being addressed by the licensee and was identified as an ongoing effort. Two Cooper Nuclear Station documents were developed to address this area; a training guide, NTG 318 "Command and Control," and an operations directive, "CNS Communications." However, there did not appear to be a formal method to implement the documents nor to define their interrelationship. None of the on-shift supervisors questioned were aware of NTG 318. Like the communications area, command and control training has been incorporated into the evaluation sessions during requalification training, but there were no formal classroom presentations scheduled to address this area.

A review of the training and testing material used for this requalification cycle showed that the material was current and that mechanisms were in place to ensure currency for future requalification training. The simulator scenarios developed for this evaluation were in accordance with the guidelines stated for NUREG-1021, "Operator Licensing Examiner Standards," Revision 7. Critical task identification and task standard definitions were very good. A review of the graded written examinations indicated that they were developed based on the sample plan and that they discriminated at the proper level.

During the simulator scenarios and walkthroughs, conditions existed that required establishing shutdown cooling. The operators were able to perform all operations necessary to accomplish shutdown cooling. No errors were noted.

The licensed operators observed during the simulator and walkthrough examinations demonstrated the ability to diagnose events and conditions. There were no errors observed.

The facility evaluators conducted the dynamic simulator and walkthrough examinations professionally and in accordance with the standards. The evaluators were able to function autonomously without management interference or visible constraints. During simulator evaluation sessions that were observed, the lead examiner elicited full participation from all evaluators. Facility evaluations were consistent with their program guidance and NRC would have agreed with all evaluations made by the licensee had it been co-evaluating. The licensee took appropriate measures to preserve examination integrity.

Other observations made by the inspectors and communicated to the licensee include:

- o STA rotation policy and involvement during requalification examinations was not fully understood by the shift crews.
- o Simulator difficulty with P-1 printout has contributed to negative training. Rather than following up when a P-1 was not obtained, the crew assumed it was a simulator problem and simulated having a printout.
- o At one point during a shift crew scenario, both reactor operators were behind the control panels at the same time.
- o Based on inspectors' observations, the perception was that operations sense of ownership in training was not complete, but the gap between the two appears less prevalent as management continues to pursue the problem.

Areas of strength that were identified include:

- o Evaluators were very professional and exhibited good evaluation skills.
- o Examination material was very good and in accordance with the standard.
- o Licensed operators took a serious professional approach to the annual evaluation.

These findings will be provided to the resident inspector to include in the operations report.

Conclusions

Although weaknesses existed in the command, control, and communications areas, the licensee was well aware of the problems and was actively pursuing their corrective actions program. The licensed operators appear to be safety conscious and competent.

In light of these observations it does not appear that an additional site visit to observe more requalification examinations will be productive.

cc: S. Collins
Reading file

NEBRASKA PUBLIC POWER DISTRICT
NUCLEAR REGULATORY COMMISSION REGION IV

MANAGEMENT MEETING

FEBRUARY 26, 1993



A/9

NPPD/NRC MANAGEMENT MEETING

FEBRUARY 26, 1993

INTRODUCTION

G. R. HORN

SALP AREA REVIEW

***R. L. GARDNER
G. R. SMITH
E. M. MACE***

1992 PERFORMANCE ACHIEVEMENTS

J. M. MEACHAM

QA FUNCTIONAL AREA TRAINING

G. E. SMITH

CLOSING REMARKS

G. R. HORN



NEBRASKA PUBLIC POWER DISTRICT
NUCLEAR REGULATORY COMMISSION REGION IV
MANAGEMENT MEETING

SALP AREA REVIEW

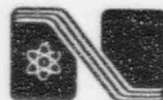
R. L. GARDNER
PLANT MANAGER

FEBRUARY 26, 1993



SALP AREA REVIEW

- *SIGNIFICANT FINDINGS*
- *ACTIONS TAKEN OR IN PROGRESS*
- *EFFECTIVENESS OF ACTIONS TAKEN*



SALP AREA REVIEW

■ *OPERATIONS*

■ *RADIOLOGICAL*

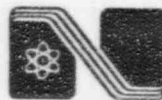
■ *MAINTENANCE/SURVEILLANCE*



OPERATIONS

■ Significant Findings

- *Management Expectations Not Clearly Expressed (SALP)*
- *Weaknesses Evident During Simulated Emergencies In Command and Control, And Communications When Operators Stressed (SALP)*
- *Apparent Lack Of Diagnostic Skills By Operators (SALP)*
- *Failure To Establish And Maintain Adequate EOP Support Procedures (IR 92-11)*



OPERATIONS

■ Actions Taken or In Progress

- **Implemented Management/Operations Supervision Breakfasts**
- **Revised Operations Department Policy Procedure To Address Independent Verification**
- **Implemented Self Checking Program** (INFO "STAR" prog *See Time for Review 3*)
- **Implemented Additional Infrequent/ Unusual Work Controls** *See 2011 plan on new line*
- **Significant Increase In Management Involvement In Training Evaluations And Critiques** *Director 54
lectures in class 1hr/mon th /supervisor
eval seen been 9thly for qual work
Ops Rep say this final
major improve @ ea. eval
scenario*

*5000 SS
w/ Ops Mgmt
& Site Mgmt
monthly
@ Auburn*



OPERATIONS

■ Actions Taken or In Progress (Cont'd)

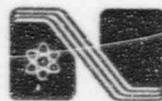
- **Issued Directive On Command And Control, And Enhanced Directive On Communications Standards** *after operator buy-in*
- **Installed Audio-Visual System In Simulator** *got operator buy-in of use*
- **Upgraded Operator Training To Include An Extended Emergency Preparedness Scenario During Alternate Cycles** *(21/2 weeks)*
- **Revised Simulator Training And Post-Exercise Critique Methods To More Effectively Provide Feedback On Crew Weaknesses**
SS empowered & made responsible



OPERATIONS

■ Actions Taken or In Progress (Cont'd)

- **Implemented Enhanced Weak Area Training Based On Examination Results**
lowered weak area threshold
- **Implemented Enhanced Instructional Techniques To Optimize Operator Diagnostics**
*doing formal report @ end of ea. cycle
Trainers more involved in setting training. SS part of process*
- **Walked Down All Emergency And Abnormal Procedures**
Very good. Done by CRS-level. Not formal like EOP. Used simulator.
- **Completed Simulator Validation Of EOPs**
62 Rev 5 (CRS Rev 6)
- **Expanded EOP Maintenance Team To Include Radiological Representative**



⇒ EOPs revised between now & exam ! ←

OPERATIONS

■ **Effectiveness Of Actions Taken**

- ***Completed Second Consecutive Year Of Operation Without Unplanned Scram***
- ***Very Few Significant Operational Transients - Excellent Response By Control Room Personnel***
- ***Demonstrated Improvement In Command And Control***
- ***Overall Continuous Improvement Noted In Licensed Operator Performance In Control Room***



RADIOLOGICAL CONTROLS

■ **Significant Findings**

- ***Radiological Protection Program Weaknesses During The Stressful Outage Period Due To Poor Communications, Coordination And Control (SALP)***
- ***Special Work Permit Program Weaknesses (SALP)***
- ***Limited ALARA Group Involvement During Outage (SALP)***
- ***Marginal Resources During The Outage (SALP)***
- ***Failure To Comply With SWP (IR 92-06)***



RADIOLOGICAL CONTROLS

■ **Actions Taken or In Progress**

found need to be ongoing

- ***Conducted Radiation Protection Program Self Assessment***
- ***Augmented ALARA And HP Staffing To Match Peak Outage Work Load***
- ***Adopted Contract Technician Team Concept***
- ***Implemented Enhanced Special Work Permit Program***
- ***Implemented Enhanced Procedural Guidance On Hot Spot Posting And Increased Emphasis In HP Training***



RADIOLOGICAL CONTROLS

■ Actions Taken or In Progress (Cont'd)

- **NRRPT Certified Seven Station And One Contract Technician**
- **Computerizing Radiological Control Functions** (June)
- **Upgraded Chemistry Quality Control Practices**
- **Established Rotational Program With Training And QA Departments**

100% pass rate
(industry avg ~60%)

to be in effect
by Jan 94

details
for
1 yr



RADIOLOGICAL CONTROLS

■ Effectiveness Of Actions Taken

- *Lowest Annual Exposure Of All Domestic BWRs In 1992 (72.5 Person-Rem)*
- *Lowest Annual Exposure In CNS History In 1992 (Previous Low Of 95 Person-Rem In 1975)*
- *Ranked Number Two On Lowest Annual BWR Exposure Over Latest NRC Five Year Average (1986 - 1990)*
- *Limited Number Of Personnel Contaminations To 54 In 1992 (↓ from 390 in 89)*
- *Chemistry Index Maintained Below 1995 Industry Goal*



Job Planning
ALARA
RP involvement

MAINTENANCE/SURVEILLANCE

■ **Significant Findings**

- ***Controls For Cleanliness During Safety Related Maintenance Weak (SALP)***
- ***Failure To Provide For Independent Verification (IR 92-09)***
- ***Failure To Properly Secure Compressed Gas Cylinder (IR 92-22)***



MAINTENANCE/SURVEILLANCE

■ Actions Taken or In Progress

- Strengthened Maintenance Work Practice 5.1.3, Foreign Material Exclusion And System Cleanliness
Being revised again to specifically include instructions
- Implement 1 Maintenance Procedure 7.0.4, Conduct Of Maintenance, To Enhance Control And Coordination Of Work Activities
- Revised Conduct Of Operations Procedure To Address Independent Verification
- Issued New Directive On Control Of Temporary/Portable Equipment
(Never had explicitly) used UC as model



MAINTENANCE/SURVEILLANCE

■ Actions Taken or In Progress (Cont'd)

- **Implemented Self Checking Program** STAR
- **Incorporated IST Test Instruments Into Formal Calibration Program**
- **Implementing Enhanced Computer Based Surveillance Scheduling System**
- **Implemented Enhanced Daily Planning Meetings** Mgmt, SS, Maint Planner, SR1
- **Expanded Three Day Schedule To Five Day Schedule**

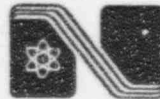


MAINTENANCE/SURVEILLANCE

■ Actions Taken or In Progress (Cont'd)

NUEG-0612
7/22/11

- *Strengthened Controls And Training On Equipment Rigging And Lifting*
- *Provided BWR Systems Training For Selected Maintenance Supervisory Personnel*



MAINTENANCE/SURVEILLANCE

■ **Effectiveness Of Actions Taken**

- ***Completed Second Consecutive Year Of Operation Without Unplanned Scram***
- ***Noted Improvement In Plant Cleanliness/Materiel Condition***
- ***Routine Conduct Of Surveillance Program Continues To Be Effective***
- ***Very Few Significant Equipment Problems Or Operational Transients Attributable To Maintenance/Surveillance Programs***



MAINTENANCE/SURVEILLANCE

- **Effectiveness Of Actions Taken (Cont'd)**

- **Low Backlog Of Open Routine Maintenance Work Requests**

270~290



NEBRASKA PUBLIC POWER DISTRICT
NUCLEAR REGULATORY COMMISSION REGION IV
MANAGEMENT MEETING

SALP AREA REVIEW

G. R. SMITH
NUCLEAR LICENSING AND SAFETY MANAGER

FEBRUARY 26, 1993



EMERGENCY PREPAREDNESS

SIGNIFICANT FINDINGS - SALP REPORT

- **PERFORMANCE OF LICENSED OPERATORS DURING SIMULATED EMERGENCY EVENTS**
 - **CLASSIFICATION**
 - **NOTIFICATION**
 - **DOSE ASSESSMENT**
 - **PROTECTIVE ACTION RECOMMENDATIONS**



EMERGENCY PREPAREDNESS

SIGNIFICANT FINDINGS - SALP REPORT (CONT'D)

■ 1991 EXERCISE WEAKNESSES

- **COMMAND AND CONTROL IN THE CONTROL ROOM AND TSC**
- **TECHNICAL ASSESSMENT AND LESS THAN TIMELY COMMUNICATION OF RADIOLOGICAL CONDITIONS**
- **COORDINATION AND CONTROL OF IN PLANT REPAIR AND SURVEY TEAMS**
- **EXERCISE AND PREPARATION AND CONTROL**
- **EXERCISE CRITIQUE**



EMERGENCY PREPAREDNESS

ACTIONS TAKEN OR PLANNED

- ***INITIATED ENHANCED EMERGENCY PREPAREDNESS TRAINING FOR OPERATORS***
- ***PERFORMED A COMMAND AND CONTROL SELF ASSESSMENT***
- ***INCORPORATED HUMAN FACTORS CONSIDERATIONS INTO TSC OPERATION***
- ***REVISED PROCEDURES FOR IMPROVED COORDINATION AND CONTROL OF REPAIR AND SURVEY TEAMS***
- ***DEVELOPED PROCEDURES FOR EXERCISE PREPARATION AND CONTROL***
- ***ENHANCED PROCEDURES AND INSTRUCTIONS FOR EXERCISE EVALUATION***



EMERGENCY PREPAREDNESS

EFFECTIVENESS OF ACTIONS TAKEN

- ***OPERATORS DEMONSTRATED IMPROVED KNOWLEDGE AND PERFORMANCE OF DUTIES IN ALL AREAS DURING ANNUAL EXERCISE AND OPERATIONAL READINESS INSPECTION***
- ***FIVE EXERCISE WEAKNESSES WERE CLOSED IN INSPECTION REPORT (298/9214)***
- ***TECHNICAL ASSESSMENT DESIRED RESULTS WERE ACHIEVED, HOWEVER, PRIORITIES AND TIMELINESS OF RESULTS WERE NOT ALWAYS PROPER***
- ***THE SELF CRITIQUE PROCESS WAS NOTED AS SIGNIFICANTLY IMPROVED***



EMERGENCY PREPAREDNESS

SIGNIFICANT FINDINGS - LAST EXERCISE

- ***ANALYSIS AND TECHNICAL ASSESSMENT OF PLANT CONDITIONS***
- ***TSC/OSC CONTINUOUS HABITABILITY DURING A RELEASE***
- ***PROMPT DETECTION AND CLASSIFICATION OF GENERAL EMERGENCY CONDITIONS***
- ***PROPER APPROVAL OF INITIAL NOTIFICATION MESSAGES TO OFF-SITE AUTHORITIES***
- ***LACK OF CLEAR GUIDANCE FOR RECONCILING CONFLICTS IN TWO DOSE ASSESSMENT MODELS FOR DECISION MAKING PURPOSES***



EMERGENCY PREPAREDNESS

ACTIONS TAKEN OR PLANNED

- ***REVISED PROCEDURES FOR ACTIVATING THE TSC ENSURING CONTINUOUS HABITABILITY***
- ***REVISED PROCEDURES TO INCLUDE MORE INDICATORS FOR POTENTIAL FISSION PRODUCT BARRIER LOSSES***
- ***CONDUCTED REMEDIAL TRAINING FOR THE OFF-SITE COMMUNICATORS***
- ***REVISED PROCEDURES ALLOWING FACILITY DIRECTORS TO SIGN THE NOTIFICATION FORMS***
- ***PROCEDURAL GUIDANCE AND TRAINING PROVIDED ON THE USE OF THE DOSE ASSESSMENT MODELS***
- ***TECHNICAL ASSESSMENT WEAKNESS CORRECTIVE ACTION WILL BE COMPLETE BY THE END OF MARCH 1993***



EMERGENCY PREPAREDNESS

EFFECTIVENESS OF ACTIONS TAKEN

- **CONTINUOUS HABITABILITY WEAKNESS FOR THE TSC/OSC WAS CLOSED IN INSPECTION REPORT 298/9303**
- **NOTIFICATION OF OFF-SITE AUTHORITIES SUCCESSFULLY DEMONSTRATED DURING DECEMBER 30, 1992 NOTIFICATION OF UNUSUAL EVENT**



EMERGENCY PREPAREDNESS

SIGNIFICANT FINDINGS - INSPECTION REPORTS

- ***DELAYS IN MAKING EMERGENCY CLASSIFICATION AND FAILURE TO NOTIFY OFF-SITE AUTHORITIES IN 15 MINUTES FOLLOWING THE DECLARATION OF THE NOTIFICATION OF UNUSUAL EVENT ON JULY 30, 1992. VIOLATION (298/9215-01)***
- ***FAILURE TO CONDUCT OPERABILITY CHECKS OF PAGERS USED TO CALL-IN EMERGENCY RESPONDERS. VIOLATION (298/9303-01)***
- ***FAILURE TO CONDUCT DRILL CRITIQUE AND ASSIGN ACTION ON DRILL WEAKNESSES. VIOLATION (298/9303-02)***



EMERGENCY PREPAREDNESS

ACTIONS TAKEN OR PLANNED

- **REVISED PROCEDURAL GUIDANCE REQUIRING SHIFT SUPERVISOR INVOLVEMENT WITH SORC**
- **ESTABLISHED NEW NOTIFICATION METHOD WITH MISSOURI STATE EMERGENCY MANAGEMENT AGENCY**
- **MONTHLY OPERATIONAL CHECKS OF THE PAGERS ARE ONGOING WITH NO PROBLEMS NOTED**
- **A CRITIQUE OF THE JUNE 2, 1992 MINI-DRILL WAS CONDUCTED**
- **CRITIQUE FOLLOW-UP ACTIONS ASSIGNED**



EMERGENCY PREPAREDNESS

EFFECTIVENESS OF ACTIONS TAKEN

- ***SORC/SHIFT SUPERVISOR INTERFACE AND THE OFF-SITE NOTIFICATION SUCCESSFULLY DEMONSTRATED DURING DECEMBER 30, 1992 NOUE***
- ***PAGER TESTS SATISFACTORY***



ACCOMPLISHMENTS/INITIATIVES

- ***EP TASK FORCE ESTABLISHED TO EVALUATE OVERALL EMERGENCY PREPAREDNESS EFFECTIVENESS***
- ***EP EFFECTIVENESS REVIEW COMMITTEE FORMED***
- ***COMBINED OSC'S FOR MORE EFFECTIVE TEAM CONTROL/COORDINATION***
- ***SIGNIFICANT OPERATOR TRAINING EFFECTIVENESS***
- ***ERO TASK ANALYSIS AND JOB SPECIFIC TRAINING DEVELOPED***
- ***COMMAND AND CONTROL EFFECTIVENESS IMPROVED***
- ***EP DRILL PROGRAM UPGRADED***
- ***NOTIFICATION HOTLINE INSTALLATION PLANNED***



NEBRASKA PUBLIC POWER DISTRICT
NUCLEAR REGULATORY COMMISSION REGION IV
MANAGEMENT MEETING

SALP AREA REVIEW

E. M. MACE
SENIOR MANAGER SITE SUPPORT

FEBRUARY 26, 1993



SALP AREA REVIEW

- *ENGINEERING/TECHNICAL SUPPORT*
- *SECURITY*
- *SAFETY ASSESSMENT/QUALITY VERIFICATION*



ENGINEERING/TECHNICAL SUPPORT

■ **Significant Findings**

- ***Licensed Operator Training Program (SALP)***

■ **Actions Taken or In Progress**

- ***Completed INPO Team Skills Training***
- ***Richardson/Estes Training***
- ***Installed Simulator Video System***
- ***Implemented Crew Performance Trending***
- ***Completed Instructor Diagnostic Skills Training***
- ***Implemented EOC Training/Operations Requal Review***



ENGINEERING/TECHNICAL SUPPORT

- **Actions Taken or In Progress (Cont'd)**
 - ***Shut Down Risk Management***
 - ***Check Valve Program***
 - ***Upgraded Erosion/Corrosion Program***
 - ***Completed Equipment Spare Parts List Development***
 - ***Implemented NUMARC Procurement Initiative***



ENGINEERING/TECHNICAL SUPPORT

■ Actions Taken or In Progress (Cont'd)

- **Instrument Setpoint Program** GE improved program 26/100 fin, end 12/94
RV level 1st & done
- **Training Compliance Matrix**
Accredited prog against Reg's & industry guidance. WPO received in 94
- **Established Management Operations Certification** SKO cert for mgmt
(exp for staff/long)
- **Training Program Self-Assessment**
Back load, working w/ WPO to reduce size/team time for WPO



ENGINEERING/TECHNICAL SUPPORT

■ Effectiveness of Actions Taken

- *Successful Completion of the Annual Requal Exam*
- *Licensed Operator Performance Improvements*
- *Ownership of the Licensed Operator Training Program*
- *Effective Control of Engineering Projects and Design Modifications*
- *Effective Corporate/Site Engineering Interface*
- *High Morale, Well Trained and Qualified Engineering Personnel, with Strong Management Support* *low attrition 27 P.E., 70 site*
- *Limited Outside Contractor Assistance*



SECURITY

■ Significant Findings

- Lock Change-out (IR 92-20)
- Visitor Control (IR 92-22)

■ Actions Taken or In Progress

- Revised Procedure 0.28 - Specific controls to trigger lock D
- Notification to All Personnel; Revised Escort Training
- Reorganization - Department Status for Security 7/92
- Developed Performance Based Training Program



was all discussion, now 6 mos classroom
6 mos OST

SECURITY

■ Actions Taken or In Progress (Cont'd)

- **Developed Performance Based Equipment Testing Program**

- **Implemented Combat Stress Firing Course**

- **Egress Search Program**

- **Consultant Evaluation of Access Control Equipment, Microwave System, Contingency Operations, and Security Training**

- auto min perf of LCO via proc. 2 weeks old

driven by theft incident protect property detect contraband protect against contam. equip removal

OSRE prep w/ consultant



SECURITY

- **Effectiveness of Actions Taken**
 - ***Officer Turn-Over Rate Remains Low***
 - ***Plant Support of Security Equipment Remains Excellent***
 - ***Officer Morale/Work Attitude Outstanding***



SAFETY ASSESSMENT/QUALITY VERIFICATION

■ **Significant Findings**

- ***High Threshold for Non-Conformance Reports (SALP)***
- ***Not Proactive in Identifying Potential Safety Issues (SALP)***
- ***No Corrective Action for Low Station Battery ICV's (IR 92-04)***
- ***Operability Evaluation for Low Station Battery ICV's Not Reviewed by SORC (IR 92-04)***
- ***In-place ECCS Suction Strainers (IR 92-19)***



SAFETY ASSESSMENT/QUALITY VERIFICATION

■ **Actions Taken Or In Progress**

- **Implemented Deficiency Report Program** *mimics NCR @ lower threshold*
- **Revised Operability Evaluation/Determination Program**
Close to gen the 91-18
- **Revised Tech. Spec. Surveillance Procedures**
human factored, ~~user~~ user friendly
- **Conducted Numerous Self-Assessments**
Self-assess doing periodically
- **Quarterly Trend Report**
from QA

■ **Effectiveness Of Actions Taken**

- **Acceptance and Support of the DR Program by Plant Personnel**
- **Expeditious SORC Review of Potential Safety Issues**



NEBRASKA PUBLIC POWER DISTRICT
NUCLEAR REGULATORY COMMISSION REGION IV
MANAGEMENT MEETING

1992 PERFORMANCE ACHIEVEMENTS

J. M. MEACHAM
SITE MANAGER

FEBRUARY 26, 1993



CNS PERFORMANCE INDICATORS 1992

	<u>Actual</u>	<u>Goal</u>	
1. Unit Capability Factor	92.3	$\geq 90\%$	
2. Unplanned Capability Loss Factor	4.2	$\leq 4.0\%$	Station Bottling problem
3. Unplanned Automatic Scrams	0	1.0 per 7,000 hrs. critical	
4. Safety System Performance			
- High Pressure Injection Systems (HPCI & RCIC)	1.0	$\leq 2\%$	
- Residual Heat Removal System	0.55	$\leq 2\%$	
- Core Spray System	0	$\leq 1\%$	
- Emergency AC Power System	0.2	$\leq 2\%$	
5. Unplanned Safety System Actuations	0	≤ 1	
6. Thermal Performance (Gross Heat Rate, BTU/KWH)	10,199	$\leq 10,300$	
7. Fuel Reliability (microcuries/sec)	1.4	≤ 50	
3. Chemistry Index	0.25	≤ 0.22	Rx water - good perfect. hit by small condenser tube leak



CNS PERFORMANCE INDICATORS (Cont'd)
1992

	<u>Actual</u>	<u>Goal</u>	
9. Collective Radiation Exposure (Person-rem)	72.5	≤ 90	
10. Personnel Contamination Reports	54	≤ 100	
11. Volume of Low Level Solid Radwaste (Cubic Meters)	283.5	≤ 265	<i>Mgrt decision to ship as much as possible in '92</i>
12. Lost Time Accident Rate (Per 200,000 Man-Hours Worked)			
- Lost Time Accidents	0.0	≤ 0.2	<i>Still struggling attn to detail</i>
- Restricted Time Accidents	0.92	≤ 0.8	
13. Open Nonconformance Reports	136	≤ 135	<i>DR process complex for resources</i>
14. Open Routine Maintenance Work Requests	280	≤ 250	



MAJOR ACCOMPLISHMENTS 1992

- *No unplanned scrams for the second year in a row.* *CNS record*
- *96.0 % available - 4th in the world for BWRs.* *CNS record*
- *Capacity Factor of 91.3 % - again, 4th in the world for BWRs.* *CNS record*
- *Lowest radiation exposure of any domestic BWR at 72.521 person rem.* *CNS record*
- *Achieved 1.5 million manhours worked (and still counting) without a lost time accident.*



MAJOR ACCOMPLISHMENTS (Cont'd)
1992

- ***Set a new generation record for CNS at 6.277 million megawatt-hours.***

5.7 prev. record

- ***No unplanned safety system actuations for the second year in a row.***

- ***Monthly average of open, routine MWRs was very low at 275.***

industry norm 500 ~ 1500



CNS PERFORMANCE INDICATORS
1993

	<u>Goal</u>
1. Unit Capability Factor	≥ 80%
2. Unplanned Capability Loss Factor	≤ 4.0%
3. Unplanned Automatic Scrams	0.5 per 7,000 hrs. critical
4. Safety System Performance	
- High Pressure Injection Systems (HPCI & RCIC)	≤ 2%
- Residual Heat Removal System	≤ 2%
- Core Spray System	≤ 1%
- Emergency AC Power System	≤ 2%
5. Unplanned Safety System Actuations	≤ 1
6. Thermal Performance (Gross Heat Rate, BTU/KWH)	≤ 10,300
7. Fuel Reliability (microcuries/sec)	≤ 25
8. Chemistry Index	≤ 0.24

*56 day outage
included*

2 weeks

*Very good experience
w/ GE barrier fuel
@ air ejector*

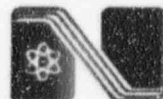


CNS PERFORMANCE INDICATORS (Cont'd)
1993

	<u>Goal</u>
9. <i>Collective Radiation Exposure (Person-rem)</i>	≤ 350
10. <i>Personnel Contamination Reports</i>	≤ 150
11. <i>Volume of Low Level Solid Radwaste (Cubic Meters)</i>	≤ 230
12. <i>Lost Time Accident Rate (Per 200,000 Man-Hours Worked)</i>	
- <i>Lost Time Accidents</i>	≤ 0.2
- <i>Restricted Time Accidents</i>	≤ 0.8
13. <i>Open Nonconformance Reports</i>	≤ 135
14. <i>Open Routine Maintenance Work Requests</i>	≤ 275
15. <i>Personnel Errors (leading to LER)</i>	≤ 5
16. <i>NRC Violations</i>	≤ 10
17. <i>Licensed Operator Requalification Crew Failures</i>	≤ 1

*130 for outages
100 for normal*

avg/month



SUMMARY

- *The Nuclear Power Group is highly goal oriented.*
- *Challenging performance goals are established and results are monitored monthly.*
- *Overall performance continues to improve.*



RESULTS OF FUNCTIONAL AREA TRAINING

FOR QUALITY ASSURANCE AUDITORS

PRESENTED TO NRC FEBRUARY 26, 1993

Presented By
Garrett E. Smith
Quality Assurance Manager
Cooper Nuclear Station



A/10

REALIZED EFFECTS OF TRAINING

QA AUDITORS

HIGHLIGHTS OF PREVIOUS PRESENTATION

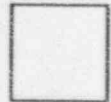
TRAINING RECEIVED TO DATE

**MEASUREMENT OF TRAINING
EFFECTIVENESS**

SUMMARY



HIGHLIGHTS OF PREVIOUS PRESENTATION



PRESENTATION TO NRC AT CNS SEPT. 25, 1992

- DISCUSSED PROACTIVE INITIATIVES TO OBTAIN FUNCTIONAL AREA TRAINING
- DISCUSSED QA "UNIQUE" TRAINING PROGRAM OBJECTIVES
- REVEALED PROGRESS OF ATTAINING OPERATIONS TRAINING
- REVEALED INTENTIONS TOWARD FUTURE MILESTONES



TRAINING RECEIVED TO DATE

OPERATIONS TRAINING

- DETAILS PROVIDED - PREVIOUS PRESENTATION - COMPREHENSIVE 10 WEEK COURSE
- ALL CNS QA DEPARTMENT PERSONNEL CERTIFIED (1 EXCEPTION)

OTHER FUNCTIONAL AREAS

- HEALTH PHYSICS, CHEMISTRY, SECURITY, ELEC. MAINT., ETC,
- YEARLY TRAINING PLANS



MEASUREMENT OF TRAINING EFFECTIVENESS

GATHERING OF EXAMPLES

THE OBJECTIVE OF TRAINING

CREDIBLE AUDITORS

MEASURABLE PARAMETERS

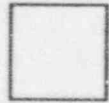


Key Indicators of a Credible QA Organization

1. **Line organization that believes in the concept that the QA organization is to be used to promote improvement.**
2. **Recognition by the line organization that the QA organization is a credible source from which to solicit opinions. This is particularly important when dealing with organizational interfaces to implement new concepts, programs, or resolve problems.**
3. **Performance of audits and surveillances that promote the prevention and/or mitigation of adverse operational and programmatic problems by early detection and timely resolution.**
4. **Positive feedback from line and upper management resulting from accurate and thorough reporting.**
5. **Auditors that are confident in their ability to conduct research and interface with the line organizations to determine what is important.**
6. **NRC Inspection Reports that subjectively and objectively conclude that comprehensive and accurate audit and surveillances are being performed by the QA organization**

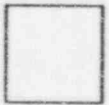


SUMMARY



TRAINING AUDITORS IS HAVING THE DESIRED EFFECT

- ATTENTION FOCUSED ON SAFETY SIGNIFICANT ISSUES
- SUBJECTIVE ASSESSMENT OF OBSERVED FIELD ACTIVITIES
- REPORTING WHICH EMPHASIZES EFFECTIVENESS EVALUATION



UPPER MANAGEMENT SUPPORT

- IMPROVEMENT - CONTINUOUS EXPECTATION



2.8 Corrective Action Programs

The licensee's corrective action programs were evaluated, in detail, during an NRC inspection documented in Report 50-298/93-17. The focus of the team during this inspection was not on the corrective action program that was found deficient, but focused on corrective action documents the licensee considered closed after May 1993. The team reviewed six licensee event reports, and three items previously identified by the NRC that the licensee considered ready for closure. The team also reviewed 27 nonconformance reports and 14 deficiency reports that had been closed by the licensee since May 1993.

In addition to the document reviews, the team observed a meeting of the Nonconformance Oversight Committee. The team considered the licensee's use of this forum as a strength. The committee provided a means for those responsible for developing replies to corrective action documents to become familiar with management's expectations. This was made possible by requiring the author of the document to present the reasons why the document was ready for closure to the committee.

2.8.1 Previously Identified Items

2.8.1.1 Inspection Followup Item 298/9123-01: Emergency Diesel Generator Air Solenoid Design Modification

This item was opened by the NRC to follow the completion of the design modification of the emergency diesel generator air start solenoid circuitry. The team reviewed the design package and the installation documentation. The team also reviewed the post-modification testing. The team concluded that the licensee had installed and tested the modification in accordance with station procedures.

2.8.1.2 Violation 298/9209-01: Procedure Did Not Require Independent Verification

During a previous inspection of training activities, a violation was identified in that a surveillance procedure did not fully meet the requirements for independent verification. The licensee responded to the Notice of Violation on August 27, 1992. The licensee stated that the surveillance procedures would be reviewed to verify that the required independent verification steps had been properly included. The team reviewed the results of the licensee's inspection and concluded that the licensee had performed the corrective actions as stated in their August 27, 1992, letter to the NRC.

2.8.1.3 Violation 298/9319-01: Low Electrolyte Level in Safety-Related Batteries

During a plant tour, the Regional Administrator for Region IV found the electrolyte levels in several cells of the safety-related 250VDC Batteries A and B were too high. The licensee responded to the Notice of Violation on August 5, 1993. The licensee's corrective actions were to request a Technical Specification change to the acceptance criteria for the maximum electrolyte level. The licensee concluded that the filling of the cells was within the skill of the craft and that the high levels were the results of parallax. The

A/11

relaxed Technical Specification criteria allows the batteries to remain operable even if the level is above the mark on the cell. The team concluded that the licensee had performed the actions as stated in the August 5, 1993, letter.

2.8.2 Licensee Event Reports

2.8.2.1 Licensee Event Report 91-015

On November 5, 1991, the licensee found that the setpoints for the safety/relief valves and a safety valve exceeded the tolerances established in the Technical Specifications. The licensee's corrective actions were to inspect, refurbish, and satisfactorily retest the valves. Additionally, the licensee was waiting for NRC approval of a Technical Specification change that had been requested on January 26, 1990.

The issue of safety/relief valve setpoint drift has been a noted industry problem. The licensee has concluded that exceeding the tolerances allowed by the Technical Specifications, by the amounts seen at CNS, would not result in operation outside of design basis. The Technical Specification change would relax the acceptance criteria to an amount that reasonably could be achieved.

The team concluded that the actions taken by the licensee were in accordance with those described in the report. Additionally, the licensee's actions were consistent with those of others in the industry.

2.8.2.2 Licensee Event Report 92-010

On June 6 and July 14, 1992, the licensee found, during the performance of a surveillance test, that the air operated valve in the control room emergency bypass system failed to operate properly. This failure rendered the control room emergency ventilation system inoperable.

The licensee investigated the cause of the failure and identified the cause as a failed pneumatic relay in the control circuitry. The licensee removed the pneumatic relays, the poppet valves, and the solenoid valve and replaced them with a four-way solenoid valve. This work was performed under Maintenance Work Request 92-1578. The licensee then initiated a design change to document the modification of the control circuitry. The design change was approved on June 10, 1993.

The team found the licensee's actions to have adequately address the failure of the pneumatic relays.

2.8.2.3 Licensee Event Report 93-007

On March 26, 1993, the licensee identified a scenario that could result in only one residual heat removal pump operable. The scenario was a loss of coolant accident coincident with a loss of offsite power and one emergency diesel generator failed to start. The problem arose because the licensee cross-connected the power to the ventilation units for the residual heat removal pump rooms. This would result in the loss of two pumps due to the loss of the emergency diesel generator, and the loss of one pump due to the loss of ventilation and cooling which would result from the loss of the

emergency diesel generator also. The licensee concluded that the cause of this scenario was the design errors encountered in the implementation of a design modification in 1976. The licensee identified this scenario during its design basis reconstitution program.

This condition was identified while the plant was in a refueling outage. Prior to startup from the outage, the licensee made modifications to maintain natural convection cooling to the residual heat removal pump rooms which would result in two operable residual heat removal pumps during the during the scenario.

The team reviewed the licensee's actions and found them to have been adequate to resolve this event report.

2.8.2.4 Licensee Event Report 93-022

On May 14, 1993, the licensee was performing a special instruction for a maintenance work request and caused Bus 1G to be isolated from the emergency station service transformer and be energized by the emergency diesel generator. The licensee attributed this event to unanticipated design problems and human factors.

The licensee determined that the operator was not familiar with the annunciator labeling or the annunciator procedures. This unfamiliarity caused him to take actions that resulted in the loss of the bus. The licensee also determined that the design of the electrical distribution system contributed to the event in that the sensing relays were not located so that the operator could be misled.

The licensee provided a separate input to the existing annunciator window to indicate a high secondary voltage on the emergency station service transformer when Bus 1G was powered for the emergency station service transformer. The annunciator and operating procedures have been revised to more clearly explain the operation of the emergency station service transformer and the annunciation associated with the transformer and buses. The team considered the licensee's actions to have adequately addressed this event.

2.8.2.5 Licensee Event Report 93-028

On June 30, 1993, the licensee determined that several valves were subject to a failure mode such that the declutch mechanism could operate if the valve operator was subject to large dynamic loadings in a narrow range of frequencies. The licensee identified these conditions as a result of reviewing information provided by the vendor in accordance with 10 CFR Part 21 requirements.

The licensee corrected this problem by replacing the subject declutch levers with a model not susceptible to this phenomena. The team concluded that the licensee properly evaluated the information, reported to the NRC as required, and took appropriate corrective actions.

2.8.2.6 Licensee Event Report 93-030

On July 8, 1993, as a result of determining that the service water flow rate measured by an anubar flow monitoring device was incorrect, the licensee discovered that in-service testing of the service water pump discharge check valves had not been performed in accordance with the requirements of Generic Letter 89-04. The licensee determined that the cause of the in-service test deficiency was due to the flow instrument calibration error, an original design deficiency, and failure to recognize that the flow rate specified in the surveillance procedure for verifying operability of the check valves was not the maximum accident condition flow rate required by Generic Letter 89-04.

The licensee's corrective actions included the revision of the calibration factor used in the surveillance procedure and the revision of the surveillance procedure to establish the correct flow. The team reviewed the licensee's corrective actions and found them to have been appropriate to correct this problem.

2.8.3 Nonconformance and Deficiency Reports

The team reviewed 27 Nonconformance Reports and 14 Deficiency Reports. The team found that the licensee had properly addressed the issues identified with the exception of two Deficiency Reports, DR 93-230 and DR 93-311. These reports concerned the licensee's failure to properly implement its procedure for controlling overtime.

On May 17, 1993, the licensee identified on DR 93-230 a worker and his supervisor who had worked more than 24 hours in a 48 hour period. The licensee's corrective actions were to have the supervisor read the overtime procedure and to remind the worker of his responsibility to obtain prior approval for work that could violate the overtime procedure. The licensee closed this deficiency report on May 24, 1993.

On July 12, 1993, the licensee identified on DR 93-311 three workers who had exceeded 72 hours in a 7 day period. The licensee's corrective actions for this deficiency was to counsel the responsible lead engineer with respect to ensuring administrative requirements were followed. The licensee closed this deficiency report on August 10, 1993.

The team found that the licensee's corrective actions for each of these deficiency reports were not adequate to prevent recurrence. The licensee addressed only the individuals involved in the events, not those required to comply with the overtime regulations. The team concluded that the failure to take corrective actions to prevent recurrence was an additional example of the corrective action program deficiencies identified in NRC Report 93-17 for which corrective actions have not been implemented.

2.8.4 Conclusions

As a result of the findings documented in NRC Report 50-298/93-17, the licensee was developing a new corrective action program that was scheduled for implementation in January 1994. The new program was being modeled after programs existing at other licensees' facilities. The team noted that the new program would be based on one corrective action document rather than multiple documents. The team did not review the licensee's proposed program since that will be the subject of further inspection in response to the findings in NRC

Report 50-298/93-19. Additionally, the team was not informed of any proposed licensee actions to evaluate corrective actions taken under the prior corrective action program to determine if the actions were adequate to prevent recurrence.

During the reviews of those actions the licensee considered closed, the team found that, in most instances, the licensee did not have adequate information in the packages presented to the team for review. The team had to request additional information, which the licensee had available, in order to evaluate the items for closure. Once the additional information was provided, the team was able to make conclusions on each of the items. The team also identified two instances where the licensee failed to take corrective actions to prevent recurrence. The team considered those examples to have been additional examples of the issues identified in NRC Report 93-17. One strength was identified in the Nonconformance Oversight Committee and the manner in which corrective action documents were being reviewed prior to closure.

NEBRASKA PUBLIC POWER DISTRICT
NUCLEAR REGULATORY COMMISSION -- REGION IV

ENFORCEMENT CONFERENCE

NRC INSPECTION REPORT 50-298/93-28 (JANUARY 6, 1994)

JANUARY 31, 1994



A/12

AGENDA

INTRODUCTIONS

G. HORN

OVERVIEW

G. HORN

**ENFORCEMENT ISSUES –
DISCUSSION OF APPARENT VIOLATIONS**

**K. WALDEN
R. GARDNER**

CLOSING REMARKS

G. HORN



OVERVIEW

PRESENTATION ADDRESSES THE FIVE APPARENT VIOLATIONS IDENTIFIED IN THE NRC INSPECTION REPORT DATED JANUARY 6, 1994

THE ISSUES CONCERNING RELAY TESTING AND EDG OPERABILITY WERE SELF-IDENTIFIED – THIS INCLUDED:

- **PROBLEM IDENTIFICATION**
- **INVESTIGATION OF ISSUES**

IN OUR VIEW, THE CNS CORRECTIVE ACTION PROGRAM FUNCTIONED SUFFICIENTLY TO IDENTIFY THE RELAY TESTING DEFICIENCIES – BUT FOLLOWUP MONITORING OF THE RELAYS COULD HAVE BEEN MORE AGGRESSIVE

PERFORMANCE OF THE CAP WAS CONSISTENT WITH THE CHALLENGES WE ACCEPTED IN UPGRADING OUR CORRECTIVE ACTION PHILOSOPHY (AS OUTLINED IN OUR NOVEMBER 12, 1993 LETTER TO NRC) – AND WE ARE CONTINUING TO ADJUST THE CAP AS NECESSARY



OVERVIEW (CONT'D)

I WOULD HAVE PREFERRED THAT CAPOG HAD IDENTIFIED THE INADEQUACIES RELATED TO THE INITIAL ROOT CAUSE DETERMINATION AND THE TIMELINESS OF COMMITMENT IMPLEMENTATION RELATED TO SP 6.3.12.

- **IT SHOULD BE REALIZED, HOWEVER, THAT AT THE TIME OF THE EVENT, THE ROOT CAUSE ANALYSIS AND CORRECTIVE ACTION APPEARED TO BE SOUND – FOLLOWUP TESTING WAS SPECIFIED, BUT WAS WEAK**

THE APPARENT VIOLATIONS CAN BE GROUPED INTO 3 CATEGORIES:

EDG DESIGN BASIS ISSUES

PROCEDURE AND VENDOR MANUAL ISSUES

TIMING OF DECLARATION OF UNUSUAL EVENT



OVERVIEW (CONT'D)

WITH RESPECT TO EDG DESIGN BASIS ISSUE:

THE NRC POSITION IS NOT CONSISTENT WITH CNS LICENSING BASIS – THE LICENSING BASIS IS CONCURRENT LOOP-LOCA

ACCORDINGLY, ALTHOUGH THE EDGs WERE DECLARED INOPERABLE AS A RESULT OF EDG MONTHLY SURVEILLANCE TESTING ON NOVEMBER 8, 1993, WE DO NOT AGREE THAT THEY WERE "POTENTIALLY INOPERABLE FOR AN EXTENDED PERIOD OF TIME"



OVERVIEW (CONT'D)

WITH RESPECT TO PROCEDURAL/VENDOR MANUAL ISSUES AND THE TIMING OF DECLARATION OF UNUSUAL EVENT ISSUE:

WE MAY DISAGREE WITH ASPECTS OF THE VIOLATIONS, HOWEVER, WE FULLY ACKNOWLEDGE THE SERIOUSNESS OF THE DEFICIENCIES THAT WERE FOUND – IN ADDITION, WE HAVE IDENTIFIED OTHER CONCERNS – ALL OF WHICH WE ARE CORRECTING



OVERVIEW (CONT'D)

TO REFLECT FURTHER INVESTIGATIONS OF THE ISSUES, WE WILL ISSUE A SUPPLEMENT TO LER 93-035 (DECEMBER 8, 1993) –

(1) SOME AREAS OF UNCERTAINTY HAVE BEEN RESOLVED AS A RESULT OF FURTHER EVALUATION AS NOTED IN THE LER (E.G., EDG DESIGN BASIS);

(2) SUBSEQUENT ROOT CAUSE INVESTIGATIONS HAVE PROVIDED ADDITIONAL INSIGHT (E.G., RELAY ADJUSTMENT, CONTACT WIPE, VENDOR MANUALS)

CNS TAKES THE ISSUES BEING DISCUSSED TODAY VERY SERIOUSLY

ALTHOUGH WE MAY DISAGREE WITH SOME OF THE SPECIFICS OF THE APPARENT VIOLATIONS, WE HAVE STILL MADE IMPROVEMENTS IN THESE AREAS



ENFORCEMENT ISSUES

DISCUSSION OF APPARENT VIOLATIONS



APPARENT VIOLATION 9328-01

DESCRIPTION:

THE AS-FOUND CONDITIONS OF EMERGENCY DIESEL RELAYS DG-REL-DG1(59) AND -DG2(59) WOULD HAVE PREVENTED THE EMERGENCY DIESELS 1 AND 2 FROM PERFORMING THEIR INTENDED DESIGN FUNCTION FOR ACCIDENT SCENARIOS WHERE OFFSITE POWER IS AVAILABLE, AND THEN SUBSEQUENTLY LOST. THIS IS AN APPARENT VIOLATION OF TECHNICAL SPECIFICATIONS 3.9.A AND 3.5.F (REQUIRES EDG OPERABILITY).

NPPD POSITION: DISAGREE WITH THE APPARENT VIOLATION

BASIS FOR POSITION:

NRC POSITION IS INCONSISTENT WITH COOPER LICENSING BASIS

DESIGN BASIS LOCA DEFINED AS SIMULTANEOUS LOOP/LOCA



APPARENT VIOLATION 9328-01 (CONT'D)

OPERABILITY:

TECHNICAL SPECIFICATION DEFINITION OF OPERABLE/OPERABILITY STATES:

"...WHEN IT IS CAPABLE OF PERFORMING ITS SPECIFIED FUNCTION(S)."

SPECIFIED FUNCTIONS:

THE SPECIFIED FUNCTION(S) OF THE SYSTEM IS THAT SPECIFIED SAFETY FUNCTION(S) IN THE CURRENT LICENSING BASIS FOR THE FACILITY. (NRC GENERIC LETTER 91-18)

IT IS THE DISTRICT'S POSITION THAT NOT ALL "DESCRIPTIVE" INFORMATION IN THE USAR CONSTITUTES "SPECIFIED FUNCTIONS" NECESSARY TO SATISFY THE T.S. OPERABILITY REQUIREMENTS



APPARENT VIOLATION 9328-01 (CONT'D)

SAFETY OBJECTIVE:

"A SAFETY OBJECTIVE DESCRIBES IN FUNCTIONAL TERMS THE PURPOSE OF A SYSTEM OR COMPONENT AS IT RELATES TO CONDITIONS CONSIDERED TO BE OF PRIMARY SIGNIFICANCE TO THE PROTECTION OF THE PUBLIC..." USAR CHAP. I

SAFETY DESIGN BASIS:

"THE SAFETY DESIGN BASIS FOR A SAFETY SYSTEM STATES IN FUNCTIONAL TERMS THE UNIQUE DESIGN REQUIREMENTS WHICH ESTABLISH THE LIMITS WITHIN WHICH THE SAFETY OBJECTIVE SHALL BE MET..." USAR CHAP. I



APPARENT VIOLATION 9328-01 (CONT'D)

IS THE DELAYED LOOP A SPECIFIED FUNCTION?

SAFETY OBJECTIVE USAR, CHAPTER VIII, SECTION 5, STANDBY A-C POWER

"TO PROVIDE A SINGLE FAILURE PROOF SOURCE OF ON-SITE AC POWER ADEQUATE FOR THE SAFE SHUTDOWN OF THE REACTOR FOLLOWING ABNORMAL TRANSIENTS AND POSTULATED ACCIDENTS."

SAFETY DESIGN BASIS USAR, CHAPTER VIII, SECTION 5, STANDBY A-C POWER

11 SAFETY DESIGN BASIS (SDB) REQUIREMENTS AGAINST WHICH IS JUDGED THE ACCEPTABILITY OF THE DESIGN

SDB #5 STATES: "THE GENERATOR SETS SHALL HAVE THE ABILITY TO PICK UP LOADS AS DESCRIBED IN TABLE VIII-5-1 IN A SEQUENCE AND TIME PERIOD TO SATISFY DESIGN BASIS LOSS-OF-COOLANT ACCIDENT ACCEPTANCE CRITERIA ASSUMING A LOSS OF NORMAL AUXILIARY POWER."



APPARENT VIOLATION 9328-01 (CONT'D)

IS THE DELAYED LOOP A SPECIFIED FUNCTION?

SAFETY DESIGN BASIS USAR CHAPTER VII, SECTION 4, CORE STANDBY COOLING SYSTEMS CONTROL AND INSTRUMENTATION, 4.2.5.c

"THE POWER SUPPLIES FOR THE CONTROLS AND INSTRUMENTATION FOR THE CORE STANDBY COOLING SYSTEMS SHALL BE CHOSEN SO THAT CORE COOLING CAN BE ACCOMPLISHED CONCURRENTLY WITH A LOSS OF OFF-SITE A-C POWER."

CHAPTER XIV, SECTION 6, ANALYSIS OF DESIGN BASIS ACCIDENTS, SECTION 6.3.1.b, IDENTIFIES THE FOLLOWING INITIAL CONDITION/ASSUMPTION:

"A COMPLETE LOSS OF NORMAL A-C POWER OCCURS SIMULTANEOUSLY WITH THE PIPE BREAK."



APPARENT VIOLATION 9328-01 (CONT'D)

NRC ACCEPTANCE OF COINCIDENT LOCA/LOOP

SUBMITTAL OF ORIGINAL FSAR IN 1971

DESCRIBED VIRTUALLY IDENTICAL SAFETY OBJECTIVES, SAFETY DESIGN BASIS, INITIAL CONDITIONS AND ASSUMPTIONS FOR DESIGN BASIS LOCA

ACCEPTED BY STAFF AND LICENSE GRANTED

SER STATED "A LOSS OF OFFSITE POWER WILL NOT PREVENT ECCS OPERATION AND ALL EVALUATIONS ARE MADE ASSUMING THAT ONLY ONSITE ELECTRICAL POWER IS AVAILABLE.", AND WITH REGARD TO SINGLE FAILURES, "THIS SINGLE FAILURE CRITERION HAS BEEN APPLIED COINCIDENT WITH THE ASSUMED LOSS OF OFFSITE POWER."



APPARENT VIOLATION 9328-01 (CONT'D)

NRC ACCEPTANCE OF COINCIDENT LOCA/LOOP

NPPD PROPOSED AMENDMENT FOR INITIAL REFUELING

GENERAL ELECTRIC NEDO-21337, "COOPER NUCLEAR STATION EMERGENCY CORE COOLING SYSTEM LOW PRESSURE COOLANT INJECTION MODIFICATION FOR PERFORMANCE IMPROVEMENT", JULY 1976.

IDENTIFIES COINCIDENT LOCA/LOOP AS DESIGN BASIS

"A COMPLETE LOSS OF NORMAL AC POWER OCCURS SIMULTANEOUSLY WITH THE LOCA. THIS ADDITIONAL CONDITION RESULTS IN THE LONGEST DELAY TIME FOR THE CORE STANDBY COOLING SYSTEMS TO BECOME OPERATIONAL."

APPROVED AND ISSUED AS LICENSE AMENDMENT 31, SEPTEMBER 28, 1976



APPARENT VIOLATION 9328-01 (CONT'D)

NRC ACCEPTANCE OF COINCIDENT LOCA/LOOP

COMPLIANCE WITH 10CFR50.46

**ANALYSIS PERFORMED BY GENERAL ELECTRIC USING APPROVED
METHODOLOGY, IDENTIFIES COINCIDENT LOCA/LOOP AS DESIGN BASIS.**

ACCEPTED BY NRC IN AMENDMENT 39

**COMPLIANCE WITH STAFF GUIDANCE REGARDING SECOND LEVEL
UNDERVOLTAGE**

NPPD 10CFR 50.92 REITERATES COINCIDENT LOCA/LOOP AS DESIGN BASIS

APPROVED AND ISSUED AS LICENSE AMENDMENT 95, NOVEMBER 21, 1985



APPARENT VIOLATION 9328-01 (CONT'D)

USAR CHAPTER VIII SECTION 5.3, DESCRIPTION

SECTION 5.3.1 "SYSTEM OPERATION" PROVIDES DESCRIPTIVE PASSAGE RELATIVE TO FIGURE VIII-5-1, AUXILIARY ONE LINE DIAGRAM (DEPICTS 4160 VAC BREAKERS SUPPLYING CRITICAL BUSSES)

DESCRIPTION OF HOW THE PREFERRED POWER SOURCE BREAKER LOGIC ACTS

DOES NOT DESCRIBE REQUIREMENTS

DOES NOT DESCRIBE A "DELAYED LOOP" EVENT

DESCRIBES WHAT OCCURS IF OFF-SITE POWER IS AVAILABLE OR IF OFF-SITE POWER IS NOT AVAILABLE

DESCRIBES COMPLIANCE WITH USAR CHAPTER VIII, SECTION 5, SDB #11, REGARDING CONFORMANCE TO IEEE-308, SECTION 5.2.4.2, FUNCTION

"THE STANDBY POWER SUPPLY SHALL PROVIDE ELECTRIC ENERGY FOR THE OPERATION OF EMERGENCY SYSTEMS AND ENGINEERED SAFETY FEATURES DURING AND FOLLOWING THE SHUTDOWN OF THE REACTOR WHEN THE PREFERRED POWER SUPPLY IS NOT AVAILABLE."



APPARENT VIOLATION 9328-01 (CONT'D)

SUMMARY:

NRC APPEARS TO HAVE VIEWED SECTION 5.3.1 WITHOUT CONSIDERING THE BALANCE OF INFORMATION AVAILABLE IN THE USAR.

SPECIFIED FUNCTION CANNOT BE DERIVED FROM DESCRIPTIVE MATERIAL

SOME CONFUSION EXISTED AS TO REASON FOR EDG START ON LOCA SIGNAL

SPECIFIED FUNCTION IS PROPERLY DERIVED FROM SDB AND OTHER LICENSING CORRESPONDENCE

DURING THE PERIOD ADDRESSED IN THE INSPECTION REPORT, MARCH - NOVEMBER, 1993, THE EDGs WERE CAPABLE OF PERFORMING THEIR SPECIFIED SAFETY FUNCTION IN THE EVENT OF A DESIGN BASIS, CONCURRENT LOOP-LOCA EVENT.

TO CHANGE INTERPRETATION AFTER 20 YEARS WOULD CONSTITUTE A NEW POSITION BY NRC REGARDING THE CNS LICENSING BASIS.



APPARENT VIOLATION 9328-02 (EXAMPLE 1)

DESCRIPTION:

INADEQUATE PROCEDURE – MP 7.3.1 WAS NOT APPROPRIATE TO THE CIRCUMSTANCES, IN THAT THE PROCEDURE DID NOT IDENTIFY WHICH SET OF CONTACTS THE ELECTRICIANS WERE TO TEST AND RESET

THE INADEQUATE PROCEDURE RESULTED IN RELAY MISADJUSTMENT WHICH REPRESENTED A COMMON MODE FAILURE MECHANISM FOR BOTH DIESELS

BASIS:

CRITERION V, "INSTRUCTIONS, PROCEDURES, AND DRAWINGS"

NPPD POSITION:

AGREE THAT THE FAILURE TO IDENTIFY WHICH SET OF CONTACTS THE ELECTRICIANS WERE TO TEST AND RESET, RESULTED IN UNCERTAINTY REGARDING ADJUSTMENTS TO THE "59" RELAYS

HOWEVER, IT IS NOT CLEAR THAT RELAY MISADJUSTMENT RESULTED IN A COMMON MODE FAILURE CONDITION FOR THE EDGS



APPARENT VIOLATION 9328-02 (EXAMPLE 1) (CONT'D)

SIGNIFICANCE:

THE DESIGN BASIS FOR CNS IS SIMULTANEOUS LOOP/LOCA

A COMMON MODE FAILURE DID NOT EXIST: DG SEQUENTIAL LOADING TEST (SP 6.3.4.3) WAS PERFORMED AT THE END OF THE OUTAGE TO ENSURE WORK PERFORMED ON ALL SYSTEMS ASSOCIATED WITH SEQUENTIAL LOADING WAS ACCEPTABLE

PROCEDURES ADDRESS THE POTENTIAL NEED FOR OPERATOR ACTION WHERE EXPECTED AUTOMATIC ACTIONS DO NOT OCCUR



APPARENT VIOLATION 9328-02 (EXAMPLE 1) (CONT'D)

CAUSES:

MP 7.3.1 DID NOT PROVIDE SUFFICIENT SPECIALIZED GUIDANCE FOR "59" RELAYS TESTING AND SETTING

INADEQUATE FEEDBACK FROM ELECTRICIANS CONCERNING MP 7.3.1 PROCEDURAL AMBIGUITIES (SUCH AS LACK OF FILL-IN BLANKS FOR BOTH "LIVE" AND SPARE CONTACTS)

- **FAILURE TO STOP WORK WHEN THE AMBIGUITIES WERE ENCOUNTERED**



APPARENT VIOLATION 9323-02 (EXAMPLE 1) (CONT'D)

CORRECTIVE ACTION:

SHORT TERM: PROPERLY ADJUSTED "59" RELAYS; VERIFIED REPEATABILITY

LONG TERM: PREPARING NEW PROCEDURE EXCLUSIVE TO "59" RELAYS

**REVIEWING AND REVISING, AS APPROPRIATE, ALL SAFETY
RELATED PROTECTIVE RELAY TESTING PROCEDURES**

**EVALUATE TRAINING REQUIREMENTS FOR PROTECTIVE RELAY
TESTING**

**MANAGEMENT IS CONDUCTING TAIL-GATE SESSIONS WITH THE
ELECTRIC SHGP TO EXPRESS THE IMPORTANCE OF PROCEDURE
ADEQUACY AND CORRECTION OF ANY NOTED DEFICIENCIES**



APPARENT VIOLATION 9328-02 (EXAMPLE 2)

DESCRIPTION:

INADEQUATE PROCEDURE – MP 7.3.1 NOT APPROPRIATE TO THE CIRCUMSTANCES IN THAT IT DID NOT SPECIFY THE FREQUENCY OF TESTING OF THE RELAYS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND NO JUSTIFICATION WAS PROVIDED

BASIS:

CRITERION V, "INSTRUCTIONS, PROCEDURES, AND DRAWINGS"

NPPD POSITION:

AGREE THAT JUSTIFICATION WAS NOT PROVIDED FOR THE EXCEPTION TO THE VENDOR RECOMMENDATION FOR TESTING FREQUENCY



APPARENT VIOLATION 9328-02 (EXAMPLE 2) (CONT'D)

SIGNIFICANCE:

LOW SAFETY SIGNIFICANCE BECAUSE HISTORY HAS DEMONSTRATED THE ACCEPTABILITY OF PERFORMING MP 7.3.1 AT AN EXTENDED FREQUENCY:

MP 7.3.1 PURPOSE WAS TO DETERMINE THE AS-FOUND CONDITION OF THE "59" RELAYS AND ADJUST TO WITHIN TOLERANCE, IF APPROPRIATE

HISTORY OF "59" RELAYS PROVIDES GOOD INDICATION THAT PRESENT FREQUENCY OF PERFORMANCE OF MP 7.3.1 WAS SUFFICIENT

CAUSE:

MISINTERPRETATION OF RECOMMENDATIONS IN THE VENDOR MANUAL



APPARENT VIOLATION 9328-02 (EXAMPLE 2) (CONT'D)

CORRECTIVE ACTIONS:

SHORT TERM: **PERFORMING TESTING AT VENDOR RECOMMENDED
FREQUENCY UNTIL DOCUMENTED BASIS FOR AN EXTENDED
FREQUENCY IS ESTABLISHED**

LONG TERM: **REVIEWING VENDOR MANUALS FOR SAFETY-RELATED
PROTECTIVE RELAYS IDENTIFIED IN MP 7.3.1 TO VERIFY
ADEQUACY OF TESTING FREQUENCY**



APPARENT VIOLATION 9328-03

DESCRIPTION:

ON MARCH 27 (DG2) AND APRIL 9 (DG1), 1993, THE LICENSEE FAILED TO FOLLOW MP 7.3.1, IN THAT, THE MANUFACTURER'S RECOMMENDED MEASUREMENTS OF THE CONTACT WIPE WERE NOT PERFORMED

BASIS:

CRITERION V, "INSTRUCTIONS, PROCEDURES, AND DRAWINGS"

NPPD POSITION:

AGREE



APPARENT VIOLATION 9328-03 (CONT'D)

SIGNIFICANCE:

RELIABILITY OF THE CONTACTS COULD HAVE BEEN AFFECTED

HISTORICALLY, FAILURE TO ADJUST WIPE HAS NOT RESULTED IN AN EDG FAILURE

CAUSE:

**FAILURE TO STRICTLY ADHERE TO THE VENDOR MANUAL INSTRUCTIONS BECAUSE
VENDOR MANUAL GUIDANCE WAS NOT EASILY UNDERSTOOD**



APPARENT VIOLATION 9328-03 (CONT'D)

CORRECTIVE ACTIONS:

**SHORT TERM: DOCUMENT BASIS FOR EXCEPTIONS TO VENDOR
RECOMMENDATIONS**

LONG TERM: PREPARING A NEW PROCEDURE FOR "59" RELAYS

**REVIEWING VENDOR MANUALS FOR SAFETY-RELATED
PROTECTIVE RELAYS IDENTIFIED IN MP 7.3.1 TO VERIFY
ADEQUACY OF MAINTENANCE**



APPARENT VIOLATION 9328-04

DESCRIPTION:

THE LICENSEE DID NOT EFFECTIVELY IDENTIFY OR ADDRESS THE RELAY OUT-OF-TOLERANCE CONDITIONS IDENTIFIED IN MARCH AND APRIL 1993, AND THE CORRECTIVE ACTIONS TAKEN DID NOT PRECLUDE REPETITION

BASIS:

CRITERION XVI, "CORRECTIVE ACTION"

NPPD POSITION:

AGREE

CAUSE:

WITH AVAILABLE INFORMATION AT THE TIME – INCLUDING THE HISTORY OF THE "59" RELAYS AS WELL AS THEIR AGE, IT WAS REASONABLE THAT THE ENGINEERING RESPONSE TO NCR 93-048 ATTRIBUTED THE CAUSE OF THE AS FOUND CONDITION TO "DRIFT"



APPARENT VIOLATION 9328-04 (CONT'D)

SIGNIFICANCE:

UNTIL MARCH, 1993 NO SIMILAR VOLTAGE SETPOINT OUT OF TOLERANCES OF THE "59" RELAYS HAD BEEN OBSERVED

APPROPRIATELY: NCR 93-048 GENERATED FROM DR 93-116 WHICH WAS WRITTEN BY ELECTRICIAN ON MARCH 27, 1993, TO ADDRESS THE APPARENT AS-FOUND OUT OF TOLERANCE CONDITION

THE INFORMATION AVAILABLE AT THE TIME DID NOT SUGGEST THAT THE ROOT CAUSE DETERMINATION WAS INADEQUATE

THE TRUE PROBLEM WAS RELAY TESTING INADEQUACY, WHICH WAS NOT IDENTIFIED UNTIL NOVEMBER 8 DG OPERABILITY TESTING (WITH CONTINUITY VERIFICATION)



APPARENT VIOLATION 9328-04 (CONT'D)

CORRECTIVE ACTIONS:

SHORT TERM: DISCUSSIONS WITH ELECTRICAL SHOP BY SENIOR MANAGEMENT EMPHASIZED THE NEED TO PROPERLY CHARACTERIZE THE DISCREPANCY INPUTTED INTO THE CAP.

LONG TERM: PERSONNEL TRAINING FOR THE NEW CAP WILL STRESS THE IMPORTANCE OF PROPER CHARACTERIZATION OF PROBLEMS FOR ENTRY INTO THE CAP.



APPARENT VIOLATION 9328-05

DESCRIPTION:

ON NOVEMBER 8, 1993, CORRECTIVE ACTIONS TAKEN TO IDENTIFY, CLARIFY, AND TRAIN ON THE RECOGNITION AND CLASSIFICATION OF CONDITIONS INVOLVING THE INOPERABILITY OF BOTH EDGS DID NOT PRECLUDE A REPETITION OF PRIOR FAILURES TO CLASSIFY THESE CONDITIONS AS AN UNUSUAL EVENT

BASIS:

CRITERION XVI, "CORRECTIVE ACTION"

NPPD POSITION:

AGREE WITH INAPPROPRIATE TIMELINESS IN DECLARING THIS EVENT

CAUSE:

CORRECTIVE ACTION FOR PREVIOUS EVENTS, ALTHOUGH IMPLEMENTED, WAS INADEQUATE TO PREVENT PERSONNEL FROM FAILING TO IDENTIFY AND DECLARE AN UNUSUAL EVENT



APPARENT VIOLATION 9328-05 (CONT'D)

SIGNIFICANCE:

MINIMAL SAFETY SIGNIFICANCE FOR THIS EVENT- MANAGERIAL OVERSIGHT ENSURED CORRECT CLASSIFICATION OF THE EVENT - NOTIFICATIONS WERE TIMELY

PREVIOUS CORRECTIVE ACTIONS FOR UI 9127-02 AND WEAKNESS 92-01-01

IMMEDIATE RETRAINING AND REEVALUATION ON CLASSIFICATION - WAS GIVEN TO ALL OPERATING CREWS - SCENARIO INVOLVED ONE EDG INOPERABLE, SECOND EDG FAILS A SURVEILLANCE AND IS DECLARED INOPERABLE

EAL CLASSROOM AND DYNAMIC SIMULATOR EMERGENCY RESPONSE TRAINING WERE ENHANCED FOR REQUAL TRAINING TO PERIODICALLY TRAIN ON CLASSIFICATION FOR A VARIETY OF SCENARIOS INCLUDING THE ABOVE

PROCEDURE 5.7.1 "CLASSIFICATION" - REVISED 6/92 TO SPECIFY THAT "LOSS" EQUATES TO NOT HAVING "OPERABILITY" AS DEFINED IN THE TECH. SPECS. FOR THE EDGs



APPARENT VIOLATION 9328-05 (CONT'D)

SIGNIFICANCE (CONT'D):

NOVEMBER 8, 1993 EVENT

PROCEDURE 5.7.1 INSTRUCTS THE SHIFT SUPERVISOR TO:

- 1) DETERMINE THE EVENT CATEGORY**
- 2) USE ATTACHMENT 1 FLOWCHART – TO QUICKLY LOCATE APPROPRIATE EVENT CATEGORY**
- 3) REFER TO ATTACHMENT 2 FOR CONFIRMATION**

SHIFT SUPERVISOR AND STA PERFORMED STEPS 1 AND 2, BUT DID NOT PERFORM STEP 3

ATTACHMENT 2 PROVIDED ADDITIONAL INFORMATION THAT WOULD HAVE ENSURED CORRECT CLASSIFICATION – SS AND STA ALSO DID NOT REVIEW INFORMATION IN PROCEDURE BODY DEFINING "LOSS" AS "INOPERABLE"



APPARENT VIOLATION 9328-05 (CONT'D)

CORRECTIVE ACTIONS:

SHORT TERM: **SHIFT SUPERVISOR WAS INFORMED BY PLANT MANAGER THAT NOUE CONDITION EXISTED AND WAS DIRECTED TO MAKE THE DECLARATION. ALL SHIFT SUPERVISORS WERE NOTIFIED OF THIS EVENT AND OF THE REQUIREMENTS BY THE PLANT MANAGER AND OTHER CORRESPONDENCE.**

PROCEDURE 5.7.1 ATTACHMENT 1 WAS REVISED TO USE THE TERM "INOPERABLE" FOR EAL 4.1.2

LONG TERM: **EVENT WILL BE DISCUSSED AT INDUSTRY EVENTS TRAINING USE OF EALs IN CONJUNCTION WITH CORRECT USE OF PROCEDURE 5.7.1 WILL BE EMPHASIZED DURING FUTURE EP TRAINING. THIS TRAINING WILL EMPHASIZE THE NEED TO UTILIZE ALL PROVIDED PROCEDURAL GUIDANCE IN DETERMINING PROPER CLASSIFICATION OF AN EVENT.**



CLOSING REMARKS

THE DISTRICT'S POSITION IS THAT THE CNS LICENSING BASIS IS CONCURRENT LOOP-LOCA – THE NRC POSITION WOULD INVOLVE A CHANGE TO THE CNS LICENSING BASIS

THE CNS CORRECTIVE ACTION PROGRAM FUNCTIONED SUFFICIENTLY TO IDENTIFY THE RELAY TESTING DEFICIENCIES – BUT FOLLOWUP MONITORING OF THE RELAYS COULD HAVE BEEN MORE AGGRESSIVE

WE ACKNOWLEDGE THE NOTED DEFICIENCIES INVOLVING VENDOR RECOMMENDATIONS AND DECLARATION OF UNUSUAL EVENTS

IN ADDITION, WE HAVE IDENTIFIED OTHER CONCERNS – ALL OF WHICH WE ARE CORRECTING



2/8/94

2.8.1.1 Inspection Followup Item 298/S123-01: Emergency Diesel Generator Air Solenoid Design Modification

This item was opened by the NRC to follow the completion of the design modification of the emergency diesel generator air start solenoid circuitry. The team reviewed the design package and the installation documentation. The team also reviewed the post-modification testing. The team concluded that the licensee had installed and tested the modification in accordance with station procedures.

2.8.1.2 Violation 298/9209-01: Procedure Did Not Require Independent Verification

During a previous inspection of training activities, a violation was identified in that a surveillance procedure did not fully meet the requirements for independent verification. The licensee responded to the Notice of Violation on August 27, 1992. The licensee stated that the surveillance procedures would be reviewed to verify that the required independent verification steps had been properly included. The team reviewed the results of the licensee's inspection and concluded that the licensee had performed the corrective actions as stated in their August 27, 1992, letter to the NRC.

2.8.1.3 Violation 298/9319-01: Low Electrolyte Level in Safety-Related Batteries

During a plant tour, the Regional Administrator for Region IV found the electrolyte levels in several cells of the safety-related 250VDC Batteries A and B were too high. The licensee responded to the Notice of Violation on August 5, 1993. The licensee's corrective actions were to request a Technical Specification change to the acceptance criteria for the maximum electrolyte level. The licensee concluded that the filling of the cells was within the skill of the craft and that the high levels were the results of parallax. The relaxed Technical Specification criteria allows the batteries to remain operable even if the level is above the mark on the cell. The team concluded that the licensee had performed the actions as stated in the August 5, 1993, letter.

2.8.2 Licensee Event Reports

2.8.2.1 Licensee Event Report 91-015

On November 5, 1991, the licensee found that the setpoints for the safety/relief valves and a safety valve exceeded the tolerances established in the Technical Specifications. The licensee's corrective actions were to inspect, refurbish, and satisfactorily retest the valves. Additionally, the licensee was waiting for NRC approval of a Technical Specification change that had been requested on January 26, 1990.

The issue of safety/relief valve setpoint drift has been a noted industry problem. The licensee has concluded that exceeding the tolerances allowed by the Technical Specifications, by the amounts seen at CNS, would not result in operation outside of design basis. The Technical Specification change would relax the acceptance criteria to an amount that reasonably could be achieved.

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The team concluded that the actions taken by the licensee were in accordance with those described in the report. Additionally, the licensee's actions were consistent with those of others in the industry.

2.8.2.2 Licensee Event Report 92-010

On June 6 and July 14, 1992, the licensee found, during the performance of a surveillance test, that the air operated valve in the control room emergency bypass system failed to operate properly. This failure rendered the control room emergency ventilation system inoperable.

The licensee investigated the cause of the failure and identified the cause as a failed pneumatic relay in the control circuitry. The licensee removed the pneumatic relays, the poppet valves, and the solenoid valve and replaced them with a four-way solenoid valve. This work was performed under Maintenance Work Request 92-1578. The licensee then initiated a design change to document the modification of the control circuitry. The design change was approved on June 10, 1993.

The team found the licensee's actions to have adequately address the failure of the pneumatic relays.

2.8.2.3 Licensee Event Report 93-007

On March 26, 1993, the licensee identified a scenario that could result in only one residual heat removal pump operable. The scenario was a loss of coolant accident coincident with a loss of offsite power and one emergency diesel generator failed to start. The problem arose because the licensee cross-connected the power to the ventilation units for the residual heat removal pump rooms. This would result in the loss of two pumps due to the loss of the emergency diesel generator, and the loss of one pump due to the loss of ventilation and cooling which would result from the loss of the emergency diesel generator also. The licensee concluded that the cause of this scenario was the design errors encountered in the implementation of a design modification in 1976. The licensee identified this scenario during its design basis reconstitution program.

This condition was identified while the plant was in a refueling outage. Prior to startup from the outage, the licensee made modifications to maintain natural convection cooling to the residual heat removal pump rooms which would result in two operable residual heat removal pumps during the during the scenario.

The team reviewed the licensee's actions and found them to have been adequate to resolve this event report.

2.8.2.4 Licensee Event Report 93-022

On May 14, 1993, the licensee was performing a special instruction for a maintenance work request and caused Bus 1G to be isolated from the emergency station service transformer and be energized by the emergency diesel generator. The licensee attributed this event to unanticipated design problems and human factors.

The licensee determined that the operator was not familiar with the annunciator labeling or the annunciator procedures. This unfamiliarity caused him to take actions that resulted in the loss of the bus. The licensee also determined that the design of the electrical distribution system contributed to the event in that the sensing relays were not located so that the operator could be misled.

The licensee provided a separate input to the existing annunciator window to indicate a high secondary voltage on the emergency station service transformer when Bus 1G was powered for the emergency station service transformer. The annunciator and operating procedures have been revised to more clearly explain the operation of the emergency station service transformer and the annunciation associated with the transformer and buses. The team considered the licensee's actions to have adequately addressed this event.

2.8.2.5 Licensee Event Report 93-028

On June 30, 1993, the licensee determined that several valves were subject to a failure mode such that the declutch mechanism could operate if the valve operator was subject to large dynamic loadings in a narrow range of frequencies. The licensee identified these conditions as a result of reviewing information provided by the vendor in accordance with 10 CFR Part 21 requirements.

The licensee corrected this problem by replacing the subject declutch levers with a model not susceptible to this phenomena. The team concluded that the licensee properly evaluated the information, reported to the NRC as required, and took appropriate corrective actions.

2.8.2.6 Licensee Event Report 93-030

On July 8, 1993, as a result of determining that the service water flow rate measured by an anubar flow monitoring device was incorrect, the licensee discovered that in-service testing of the service water pump discharge check valves had not been performed in accordance with the requirements of Generic Letter 89-04. The licensee determined that the cause of the in-service test deficiency was due to the flow instrument calibration error, an original design deficiency, and failure to recognize that the flow rate specified in the surveillance procedure for verifying operability of the check valves was not the maximum accident condition flow rate required by Generic Letter 89-04.

The licensee's corrective actions included the revision of the calibration factor used in the surveillance procedure and the revision of the surveillance procedure to establish the correct flow. The team reviewed the licensee's corrective actions and found them to have been appropriate to correct this problem.