Consolidated Edison
Indian Point 2

Recovery Plan

Revision 3, November 1, 1999

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Introduction and Background

The August 31st plant trip and subsequent response involved several challenges in management, human performance, processes and equipment that required follow-up assessments and improvement actions. This Recovery Plan provided structure and guidance to the organization to address these issues such that the necessary steps were taken for the safe and efficient restart of the plant and established requirements for developing longer term actions needed for continuous improvement of the Indian Point Unit No. 2 organization.

The Recovery Plan, completely re-written for Revision 3, provides a summary of the results of the assessments performed and an overview of those actions taken to assure the safe and efficient restart of the plant. A summary of several improvement initiatives that are being taken to address the longer-term issues from the event is also provided.

The Recovery Plan will remain in effect until implementation of the Indian Point Unit No. 2 2000 – 2004 Business Plan. The Business Plan supports our objective to continually improve performance. The 2000 Business Plan is supported by the 2000 budget.

SUMMARY OF REVISIONS

Summary of Revision 3:

The Recovery Plan has been completely re-written for Revision 3 to provide a summary of the results of the self-assessments performed and an overview of those actions taken to assure the safe and efficient restart of the plant. A summary of several improvement initiatives that are being taken to address the longer-term issues from the event is also provided. All previous Attachments have been deleted, and a new Attachment A provides a list of key post-restart corrective actions resulting from the event reviews and subsequent self-assessments.

Summary of Revision 2:

1. The Overview section was modified to include the identification of corrective actions as part of recovery.

2. The Recovery section described:

   - The plan to conduct human performance improvements to address human performance deficiencies identified during the assessments of this event.
   - The process for managing longer-term corrective actions resulting from this event, including an effectiveness review.
   - The Nuclear Facilities Safety Committee review prior to restart.

3. The scope of extent of condition reviews was expanded to include an evaluation of procedure changes to assess the adequacy of implementing 50.59 procedure screening/evaluations. Attachment H was revised to reflect these changes.

4. The Summary of Revision 1 was revised to further clarify the intent of changes 2 and 3 to the revision.

Summary of Revision 1:

1. A final Indian Point Unit No. 2 Internal Operating Experience Report replaced the draft report in Attachment C.

2. The Nuclear Power Generation and Nuclear Engineering action plans were deleted from Attachments F and G. Action items were entered into the Indian Point Unit No. 2 Corrective Action Program for monitoring and closure.

3. The scope of Extent of Condition reviews was expanded to include the following:

   - Evaluation of event-related modifications to assess the adequacy of 50.59 screening/evaluations.
   - Evaluation of electrical modifications to determine whether relay reset setpoints were properly addressed.
   - Review of Condition Reports to assess the impact of overdue corrective actions.

   Attachment H was been revised to reflect these changes.

The Plan, in Overview

Organization and Management:

A recovery management structure and organization was established, and was communicated via a Recovery Organization Charter, dated September 7, 1999. This formal Recovery Organization established the overall strategy and provided accountability for all recovery activities leading to the safe restart of the plant and development of those post-restart activities described in the Plan. Note, the Recovery Organization is no longer required as the normal organization is responsible for managing post-restart activities.

Several oversight and advisory organizations, internal and external to Con Edison, provided support in the recovery. Some of these organizations were:

- Utility Assistance Team – a team of representatives of other nuclear utilities, Institute of Nuclear Power Operation, experienced consultants and some Con Edison personnel who were not involved with the event. This team was called in early after the event to conduct an initial review.
- Advisory Group – independent utility and consultant personnel providing ongoing evaluation, mentoring advice, and support to the recovery organization.
- The Indian Point Unit No. 2 Station Nuclear Safety Committee .
- The Nuclear Facilities Safety Committee.
- Indian Point Unit No. 2 Quality Assurance.
- The Nuclear Regulatory Commission Augmented Inspection Team.

Working Principles:

Recovery management emphasized the following principles:

- Conservative decision making is essential.
- Event assessments have wide focus, addressing the full spectrum of equipment, human performance and process issues.
- Existing procedures and processes are utilized in performing work.

The Recovery Process:

The recovery process was divided into the three major elements: understanding the event, assessing the issues and commencing plant recovery. Each of the three major elements was further subdivided as follows:

- THE EVENT: Understanding the event included identifying the initiating event (unit trip) and subsequent challenges during the event response.

- ASSESSMENTS: When the event was understood, the assessment phase was entered to define and understand the issues. This included identifying the initial issues using a utility assistance team and Indian Point Unit No. 2 plant staff. Evaluations, including root cause evaluations, were then performed to determine the basic issues involved. Extent of Condition Assessments were performed to determine if similar conditions exist in other plant systems and equipment. Additionally, assessments were also performed to identify issues associated with human performance and process challenges.

- RECOVERY: When the event was understood, the cause and extent of conditions were established. Specific corrective actions were identified and assigned appropriate priorities.

Overview of the Event

Summary of the Event

On August 31, 1999 the Instrument and Control group was replacing a defective pressurizer low pressure trip bi-stable for Protection Channel 3. To support this maintenance, the Over Temperature Delta Temperature channel trip for Protection Channel 3 was placed in the trip position. A spurious electrical spike occurred on the Over Temperature Delta Temperature Protection Channel 4. This made up the "two out of four" reactor trip logic causing an Over Temperature Delta Temperature reactor trip. After the reactor tripped, a sustained undervoltage condition on all the 480 Volt buses caused the station blackout logic matrix to generate a blackout signal, stripping the 480 Volt buses and reloading them onto the emergency diesel generators. Bus 6A loaded onto its emergency diesel generator and then tripped off due to an over-current trip on the emergency diesel generator output breaker. Battery Charger 24 is powered from bus 6A through motor control center 27B. Battery 24 supported the DC loads for approximately 7.4 hours. During that time, power was not restored to Battery Charger 24. Subsequently Instrument Bus 24 was lost when the voltage on DC Bus 24 became too low for Inverter 24 to provide AC power to the instrument bus. Many Control Room annunciators are powered from this instrument bus. A Notification of Unusual Event was declared due to an unplanned loss of approximately 75% of the safety system annunciators for greater than 15 minutes. The Notification of Unusual Event was exited when power was restored approximately 12 hours after the reactor trip.

Response to the Event

The August 31 plant trip and emergency declaration challenged the organization in a number of areas, including management oversight, human performance, processes and procedures, and equipment. A formal Recovery Plan was developed to guide the organization through the steps necessary to review the event and restart the plant. Senior Indian Point Unit No. 2 managers were assigned recovery responsibilities and the recovery organization was supplemented with experienced consultants. Formal processes were developed for understanding the event, assessing the issues, and plant recovery.

The various reviews and assessments following this event resulted in many observations and root causes regarding these challenges, and identified specific corrective actions to prevent recurrence. These corrective actions were classified as either requiring completion prior to restart of the unit, or were determined to be post-restart issues. Longer term initiatives have also been identified to address the underlying knowledge and process issues highlighted during these reviews. Additionally, the backlog of degraded conditions which challenged the operators had been increasing during normal operation prior to

this event. Actions were taken during the shutdown to lessen the operator burden by reducing Operator Work-Arounds and Control Room deficiencies. The threshold for identifying these types of deficiencies has been reduced by Operations line management.

Results of Assessments

A Utility Assistance Team was formed by the Plant Manager on September 1, 1999, to independently assess the performance of plant equipment and personnel, and to provide observations and recommendations. This Team was composed of senior managers and consultants. The Team concentrated its assessment in the areas of event precursors, management oversight, command and control, leadership, communications, and process issues including Emergency Plan implementation. The Team focused on the period immediately preceding the trip, and the 12 – 18 hours after the trip. The Team met with Con Edison senior management on September 4, 1999, and discussed its preliminary observations. A final Team report was issued to the Plant Manager on September 7, 1999.

The Team provided the following key observations:

- Management exhibited a single-minded focus on bus restoration during its response to the transient.
- Event mitigation and system restoration plans were neither formalized nor documented.
- Management expectations for conservative operations appeared weak.
- Senior management relied too extensively on middle level managers for evaluation and oversight.
- Some knowledge deficiencies existed.
- Periodic Control Room briefs were insufficient to keep entire the team up to date.
- Prior Over Temperature Delta Temperature spurious alarms were not well communicated.
- Some equipment issues were identified for evaluation.

These observations and additional items were categorized into six areas for further evaluation and development of corrective actions by plant management. The six major corrective action categories were Command and Control, Processes, Event Response Support, Emergency Planning, Communications, and Training. Over forty-five (45) specific actions were identified in these six areas, fifteen (15) of which have been completed including all those required for restart. All but one (1) of the remaining items are scheduled for completion by January 2000. Key corrective actions include: the formal establishment of an Event Response Team to provide technical and support assistance to the Control Room; a review of the Emergency Plan; clarification of chain of

command roles and responsibilities; development of procedures and modifications to provide additional backup for loss of 480 Volt buses; development of training to address certain knowledge weaknesses; and actions to improve communications. A Significance Level 2 Condition Report was written to document the Team's observations and to formally track and close the corrective actions identified by management to address these issues. This report and corrective actions have been reviewed by the Station Nuclear Safety Committee and the Nuclear Facilities Safety Committee.

A Significance Level 1 Condition Report Investigative Team was chartered in accordance with the Corrective Action Program to develop conclusions (root causes) and determine corrective actions to prevent recurrence. This Investigative Team included experienced Indian Point Unit No. 2 and consultant members who reviewed the following:

- The plant response to the reactor trip including operator actions.
- The cause of the plant anomalies identified after the trip.
- The cause of the Over Temperature Delta Temperature spurious signal on Channel 4.
- Any potential precursor events related to the trip circuit.
- Industry operating experience.

A detailed Investigation Report was prepared which described the event and root cause determination in the following areas:

- Cause of the Trip Signal.
- Undervoltage trip of the 480 VAC Buses.
- Loss of Bus 6A.
- Plant Response to Transient.
- Loss of DC Bus 24.
- Technical Specification 3.0.1 and Notification of Unusual Event Entry.

The root causes of this event were presented as conclusions by the Significance Level-1 Team, and further presented as direct causes, root causes, and contributing causes in the report. Recommended corrective actions were provided for each of the causes. These causes are summarized as follows:

- Direct Cause No. 1 – A spike on Channel 4 Over Temperature Delta Temperature, most likely caused by extraneous electrical noise, completed the reactor trip logic.
- Root Cause No. 1 – The station did not appreciate the risk significance of signal spikes and intermittent grounds on DC logic circuits which were prevalent in the early 1990's, and noted again in 1999.
- Direct Cause No. 2 – The station auxiliary transformer tap changer was in manual during the undervoltage condition resulting in bus voltage remaining

below the undervoltage device reset value sufficiently long to produce a valid blackout signal.

- Root Cause No. 2 – Ineffective work prioritization delayed corrective maintenance on the tap changer resulting in its automatic function remaining unavailable for nearly one year.
- Direct Cause No. 3 – The 23 emergency diesel generator output breaker Amptector was set substantially below the specified value. As a result, the combined starting current of required pumps was sufficient to trip the breaker on short term overcurrent.
- Root Cause No. 3 – The equipment used to set 480 Volt breakers is difficult to adjust precisely.
- Contributing Cause No. 3 - During the 1997 breaker outage the root cause analysis did not recognize an additional failure mechanism for the 480 VAC breakers. During the August 31, 1999 event the 23 Emergency Deisel Generator breaker tripped due to an improper low setting on a solidstate Amptector device (3200 amps instead of the proper 6000 amps). This failure is significantly different from the historical mechanical failure mechanisms previously encountered with the DB-50 breakers. The discovery does not invalidate the results of the 1997 root cause evaluations or the associated corrective actions.
- Root Cause No. 4 – Diagnosis scope expansion and poor coordination among Operations, Engineering, and Maintenance prolonged Bus 6A recovery resulting in 24 battery degradation.
- Additional Contributing Cause – Plant staff did not understand changes introduced by undervoltage relay setpoint modifications, recurring Over Temperature Delta Temperature spikes, maintaining station auxiliary transformer tap changer in manual, and recent Tech Spec changes. As a result, contingency procedures and operator response were insufficient to preclude or prevent this event.

Thirty-six specific corrective actions were identified for the above causes, eighteen of which were completed prior to restart. Key corrective actions completed included: changing procedural techniques and retesting 480 Volt breakers, trouble shooting the DC grounds, repair of the tap changer, establishment of procedural requirements for placing the tap changer in automatic and manual, evaluation of various extent of condition impacts resulting from the event causes, and the preparation of procedures and equipment to provide alternate power supplies to vital 480 Volt loads. Post-restart corrective actions include implementing a process to include risk assessment and review of industry operating experience in the approval of planned or emergent work.

Details of the investigation and corrective actions were provided in a Significance Level 1 Condition Report. This report has been reviewed by the Station Nuclear Safety Committee and the Nuclear Facilities Safety Committee.

Following the event, several Extent of Condition reviews were conducted to identify similar vulnerabilities in other areas. These reviews were performed by Engineering, Operations and the Corrective Action Group, and covered the following areas:

Engineering:

- Timing of emergency diesel generator loading and emergency bus loading controlled by timers.
- Starting currents for various components.
- Performance of Amptectors associated with 480 Volt breakers.
- Event-related modifications to assess adequacy of 50.59 screening/evaluations.
- Electrical modifications to determine whether relay reset setpoints were properly addressed.
- Procedure changes to assess the adequacy of 50.59 screening/evaluations.
- Degraded and non-conforming conditions to assess the adequacy of Generic Letter 91-18 Rev. 1 evaluations.

Operations:

- Operations Department Standards and Expectations, and other directives, to confirm clear guidance for operation of equipment in manual, actions when receiving spurious alarms, and identifying and tracking Limiting Conditions for Operations.
- Operating shifts' knowledge regarding operation of equipment in manual when designed for automatic.
- Emergency Plan to confirm clear guidance for declaring appropriate emergency action levels.

Corrective Action Group:

- Condition Reports and work orders for the Reactor Protection System and systems which input to Reactor Protection System, to determine any uncorrected problems.
- Condition Reports, work orders and other change documents written because of electrical loading issues to determine if further Engineering review is required.
- Change documents to determine if there is equipment operated in manual when an automatic capability exists.
- Change documents to confirm that the current plant configuration supports the Indian Point Unit No. 2 design and licensing bases.
- Significance Level 1& 2 Condition Report's to confirm that overdue evaluations and corrective actions do not significantly impact plant operation.

Recovery Actions

Plant Restart

The Recovery Manager integrated activities and actions resulting from the initial reviews, root cause analyses, and the extent of condition reviews. This integrated review included an evaluation of the root cause analyses to confirm that the causes of the event were clearly understood, and a determination that the resulting corrective actions were sufficiently comprehensive to address root causes and prevent recurrence. Additionally, this review included an evaluation of the Extent of Condition reviews to ensure that the scope of reviews was based on a thorough understanding of the causes of the event, was sufficiently wide to identify vulnerabilities to similar events. Finally, this integrated review evaluated other potential issues identified that might have impacted the safe and reliable return to service of the unit. This review also confirmed that all corrective actions resulting from this event were properly classified as restart or post-restart, that this classification was clearly identified in the corrective action program, and that the post-restart items were appropriately assigned to responsible individuals with reasonable target completion dates.

The specific post-restart corrective actions are documented and tracked in the Corrective Action Program. Those actions identified in various condition reports and other related condition reports will now be monitored for closure. Quality Assurance will continue to provide the oversight function for verification of adequate closure of the issues. These post-restart action items have been identified as Implement Corrective Actions by the appropriate condition reports and have been assigned with due dates to the appropriate line management. Attachment A provides a list of key post-restart actions.

Summary of Work Performed

A total of 473 work orders were completed during the outage following the event. Key work completed included the following:

- Investigation and troubleshooting associated with spurious Reactor Protection System alarms, including efforts to identify and eliminate DC grounds.
- Restoration of No. 24 battery.
- Testing and corrective maintenance on DB50 and DB75 480 Volt breakers, including resetting overcurrent setpoints.
- Repairs and retests to address the challenges to the Operators, such as 9 Operator Work-Arounds and 45 Central Control Room Deficiencies were corrected.
- Battery Charger internal cleaning

Longer-Term Corrective Actions

To supplement those corrective actions described where additional initiatives and actions required for longer-term organizational improvements have been identified. These initiatives include addressing the specific management challenges and human performance, process and programmatic issues that contributed to the overall response of the event.

Additional initiatives:

1. Human Performance Improvements.

   Several human performance issues were identified during the assessments conducted after this event. A systematic approach to improve human performance is being taken. Human performance improvements will include the following specific attributes:

   - Periodic, structured, human performance stand downs.
   - Institute of Nuclear Power Operation assistance with initial program development.
   - Periodic self-assessments of station human performance.
   - Assessment of knowledge weaknesses associated with administrative procedure requirements, and plant design and licensing basis.
   - Formal training in human performance evaluation techniques.
   - Effectiveness reviews.

2. Corrective Action Program Improvements.

   Each department will communicate expectations for evaluating and implementing corrective actions. Goals will be established and frequently measured to address the timeliness for completing actions. An assessment of the corrective action program will be conducted to identify needed improvements. The extent and effectiveness of training on the Corrective Action Program will be evaluated.

3. Operations Improvements.

   Operations Department management clarified roles and responsibilities of the operating teams and their supervision. Management expectations for understanding and limiting risks during and following an event of this nature were conveyed. Lessons learned from the event are being reinforced during monthly staff meetings with the Shift Managers and the regular communications between the Shift Managers and their crews. Lessons learned training is being provided for operations personnel in certain areas of

system operation, electrical theory, Technical Specification applicability and log-keeping.

4. Maintenance Improvements.

   Observations of Maintenance department performance during the recovery reinforced the need for improvements in the areas of organization and management, work planning, work performance, training and qualification and work management. Specific needs include: establishment of an Instrument and Control Planning Group; development of a planning standard for the Instrument and Control organization; implementation of a procedure upgrade program; and incorporation of Post Maintenance Tests in work packages.

5. Emergency Planning Improvements.

   The Emergency Response Organization response to the event did not meet management expectations. The Emergency Response Organization did not provide timely support to operations in the review of plant conditions. Expectations associated with off-site notifications were not met. Notification procedures were inconsistent and lacked clarity. Procedure implementation and event classification were inconsistent with training. To improve emergency response capability and ensure timely and accurate implementation of the station emergency plan, the following initiatives are currently underway or planned for the year 2000:

   - Current Emergency Response Organization assignments will be evaluated and a minimum of three (3) Emergency Response Teams will be established and placed on a rotating on-call status to improve timeliness of response and enhance Emergency Response Organization teambuilding, communication, and command-and-control skills.
   - A bottom-up review of the station emergency plan and Implementing Procedures is being conducted. The plan and procedures will be subsequently revised and consolidated to streamline implementation and increase usability.
   - Emergency response facility enhancements will be evaluated and appropriate upgrades made.
   - The number of performance based training activities conducted, such as walk-throughs and drills, will be increased.
   - The Emergency Preparedness training program will be reviewed and program materials revised to reflect procedure, facility, and organizational changes.
   - Emergency Planning Department program guidance shall be enhanced and formalized to govern the following areas: conduct of

drills and exercises including the critique process, self-assessment activities, problem recognition and resolution, commitment tracking, and performance indicators.

- Relationships with off-site agencies will be strengthened through improved communication and support.

6. Work Control Optimization.

Weaknesses in work control were identified during the recovery from the event. Although significant work was completed during the recovery, backlogs of work items remain high, and are not being reduced at a rate that meets management expectations. Further backlog reduction and improved work management will be achieved through the development and management of a single daily integrated schedule that identifies and coordinates all plant work items, and that provides for clear responsibilities and accountabilities for all groups that develop and implement the schedule.

7. Improving the Modification Process.

Weaknesses in the modification process were identified during the recovery from the event. To address this concern, processes and practices utilized to develop engineering work packages will be enhanced to provide consistent and high quality technical products. The following improvements are planned to support the enhancement of the engineering work: coordination study for non-safety related Motor Control Center; updating the load studies (i.e. Emergency Diesel Generator, 480VAC System); and preparation of indexing and scanning capability for engineering documents.

8. Configuration Management Control Improvements.

The event identified several weaknesses in the control of plant configuration. For example, the load tap changer was not in the automatic position, contrary to the plant licensing basis Improvements to enhance the plant configuration control process: complete the current Final Safety Analysis Report verification effort within the current schedule; update and/or develop design basis documents to include current design and licensing bases information; and validate and upgrade critical setpoint values, calculations, and bases documents (e.g. Emergency Operating Procedures, Instrument Drift) are in progress.

9. Increasing the Knowledge Level of Plant Design and Licensing Bases.

Knowledge of the design and licensing bases for plant systems, structures, and components is needed. The current Final Safety Analysis Report update

project will enhance the accuracy and availability of the design and licensing bases, and additional training will be conducted to effectively utilize this updated information.

Procedures will be reviewed and revised, as appropriate, to more effectively implement operability reviews in accordance with Nuclear Regulatory Commission Generic Letter 91-18, Revision 1, "Resolution of Degraded and Nonconforming Conditions". Additionally, training will be provided to appropriate personnel on this review process.

10. Safety System Functional Assessment.

The current process for periodically assessing the operational performance capability of selected safety systems will be enhanced through in-depth, multi-disciplinary engineering reviews to verify that these systems are capable of performing their intended safety functions. A Safety System Functional Assessment on a risk significant system (Auxiliary Feedwater) will be conducted in January 2000.

11. Effectiveness Review.

An effectiveness review will be conducted during the first quarter of 2000 to ensure that corrective actions taken have been effective in resolving the management, technical, and process challenges identified during this event.

12. Indian Point Unit No. 2 Business Plan.

The 2000 – 2004 Business Plan will support our objective to continually improve performance. Improvement plans will be developed by the various organizations and integrated into one Business Plan to include open post-restart actions and other initiatives.

Attachment A

Post-Restart Action Items

Condition Report No. 199906643 (*Significance Level* -1)

A Significance Level 1 Condition Report Investigative Team was chartered in accordance with the Corrective Action Program to develop conclusions (root causes) and determine corrective actions to prevent recurrence. Details of the investigation and corrective actions are provided in Significance Level 1 Condition Report No. 199906643. This report has been reviewed by the Station Nuclear Safety Committee and the Nuclear Facilities Safety Committee. Key post-restart corrective actions are as follows:

- Develop a corrective action effectiveness plan which a) determines if the corrective actions have been implemented as intended; b) uses a method of evaluation appropriate for corrective action (i.e. behavior observations, surveys, surveillance etc) and c) is implemented 30 days after the original completion date.
- Enforce expectations for Operations concurrence with plant modifications as a lesson learned from this event.
- Review lessons learned from this event with Engineering Support personnel and non-operations section personnel.
- Implement a process to include risk assessment of plant and industry operating experience in the approval of planned or emergent work.
- Implement a method for disseminating emergent issues identified as risk significant that ensures timely review for impact on station operations.
- Provide methodology to detect and trend recurring risk significant deficiencies.
- Redefine responsibilities of Plant Engineering individuals for system and equipment anomalies/trends (operational analysis and failure analysis engineers).
- Establish station guidelines for when breakers require primary injection current testing.
- Prepare and implement new procedures or clarify existing procedures, as required, to ensure that the post trip phase of a trip event is clearly separated from the post trip outage implementation phase of a trip event.
- Incorporate electrical knowledge equipment fundamentals in appropriate training programs.

Condition Report No. 199906868 (*Significance Level* -2)

Observations from the Utility Assistance were documented in a Significance Level 2 Condition Report to formally track and close the corrective actions identified by management to address these issues. This report and corrective actions have been reviewed by the Station Nuclear Safety Committee and the Nuclear Facilities Safety Committee. Key post-restart action items are as follows:

- Discuss lessons learned with all shift crews. This training will include a review of the Internal Operating Experience Report for this event, and will specifically address Technical Specification implementation requirements.
- Review with each Watch Engineer expectations for their activities during plant transients and events to ensure responsibilities for monitoring Limiting Condition for Operation and Emergency Action Level declarations are clear.
- Evaluate Individual/Team expectations. Define emergency response organization, develop roles/responsibilities, review Emergency Plan for descriptions, and train key groups in responsibilities.
- Revise the independent verification process to allow for dual concurrent checks for safety related equipment. This should be applied to the Tagout and Check-off List processes.
- Review expectations with Shift Managers in Station Administrative Order-133, Procedure, Technical Specifications and License Adherence and Use Policy, and Operations Administrative Directive-15, Policy for Conduct of Operations, Technical Specifications and License Adherence and Use Policy.
- Identify Simulator fidelity issues including DC distribution system modeling, sustained undervoltage relays modeling, component cooling water flow characteristics, use of Autolog, use of sequence of events printer, use of Probabilistic Risk Aanalysis safety monitor, and use of MEANS computer software when in the Emergency Plan.
- Perform a needs analysis of training needs for the senior management team. Train the senior management team as necessary.
- Train Facilities Support Supervisors and Senior Reactor Operators in Shift Manager Emergency Plan duties. Rotate all Senior Reactor Operators into Emergency Plan roles during simulator scenarios, provide Emergency Plan training for all Senior Reactor Operators, provide training on Shift Manager role during the first hour of the Emergency Plan event, and utilize the Facilities Support Supervisors in simulator scenarios as they would be used in the plant.
- Train appropriate personnel on revisions to the Emergency Plan including Emergency Response Teams roles and responsibilities, and use of the MEANS computer software.
- Provide Operator training on cooldown without Waste Gas Compressors, battery theory/DC distribution system, and the process for determining Technical Specification applicability.
- Establish a process to align the Simulator per the Central Control Room prior to the start of each Licensed Operator Requalification cycle.