

Master Implementation Plan of Consolidated Edison  
Company of New York, Inc. for the Final Report –  
Independent Audit of Consolidated Edison Company  
Electric Emergency Outage Response Program for the  
New York State Department of Public Service  
Case No. 06-M-1078

February 29, 2008

Master Implementation Plan of Consolidated Edison Company of New York, Inc.

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## I Executive Summary

In 2006, Consolidated Edison Company of New York, Inc. (Con Edison or the Company) experienced four major outage events on its electric distribution system. Three events involved storms that caused extensive damage to trees in Westchester County which resulted in significant damage to the overhead distribution system. The fourth event involved an extended outage in Northwest Queens following equipment failures in the Long Island City secondary network. The lessons learned from these events called for a thorough review of the Company's emergency management strategy.

Consequently in the latter part of 2006, the Company reframed the Electric Operations emergency management strategy based on three key principles: *Impact Mitigation*, *Rapid Restoration* and *Communication Effectiveness*. The strategy focused on initiatives to *reduce* the potential *impact* of an event, *minimize* the *duration* of an event, and *communicate* with stakeholders in an *accurate and timely* manner. Accordingly the Company undertook numerous initiatives to improve its emergency management program that are in line with these fundamental principles (see attachment A).

At the same time that the Company undertook these initiatives, the New York Public Service Commission (PSC) initiated an independent audit of Con Edison's electric emergency outage response program that culminated in a report entitled "Final Report - Independent Audit of Consolidated Edison Company – Electric Emergency Outage Response Program for the New York State Department of Public Service – October 24, 2007" (Audit Report). This report focuses on six areas:

- *Emergency Response, Policy and Organization* - Strategy, Policy and Master Plan, and Organizational Issues
- *Comprehensive Emergency Response Program* - Analytical Assumptions and Planning Criteria, and Analysis and Program Improvement
- *Emergency Response Performance* - Emergency Response Preparation, Staffing, Load Reduction Programs, Restoration Performance, Effectiveness, Long Island City Network Outage, and Preventive Maintenance Practices
- *Communications* - Customer Information and Call Center Operations, Media Relations, Public Officials, and Public Service Commission
- *Reliability* - Tree Trimming Practices and Performance, O&M and Capital Spending, Reliability Analysis, and Reliability Impacts on Management Compensation
- *Best Practices* - Emergency Preparedness and Storm Restoration Best Practices, and Best Practice Assessment

While the Audit Report highlights many positive findings regarding Con Edison's emergency management practices, it also points out some areas for improvement. It calls for the Company to develop a strategic framework for analyzing and making decisions on emergency management priorities. The Audit Report also recommends that Con Edison prepare a multi-year strategic plan focusing on system reliability, emergency preparedness, and major outage prevention and restoration with executive management taking a lead role in setting the vision and priorities.

The Audit Report also suggests that alignment between the Corporate Emergency Planning and Security organization and the Electric Operations Emergency Management organization can be improved. Accordingly, the Audit Report recommends that the Company restructure the emergency organization in accordance with the strategic plan that Con Edison develops.

### **Audit Report Evaluation Process**

Con Edison established an Emergency Management Steering Committee (Steering Committee) of senior executives to address the issues in the audit report. The Steering Committee oversees both the review of the findings and recommendations contained in the Audit Report and the development of initiatives to improve emergency preparedness, prevention, response and associated communication. The Steering Committee engaged Davies Consulting Inc. (DCI) to provide guidance on accepted emergency management processes and best practices.

To facilitate this process, the Audit Report's findings and recommendations have been grouped into fourteen thematic categories. A team of subject matter experts has been assigned to each of the 14 categories and these teams have been tasked with addressing the specific area(s) identified under each of the categories. The 14 teams report to the Vice President of Corporate Emergency Planning and he coordinates the team efforts with the Steering Committee. The fourteen categories with associated recommendations are as follows:

1. Corporate strategy and master plan (III R1-7)
2. Emergency management organizational structure (III R 8-19)
3. Incident command system refinements (III R20-22)
4. Comprehensive Emergency Response Program (CERP) effectiveness (IV R1-9)
5. Emergency drill program expansion (V R1-4)
6. Trouble assessment process (V R5-6)
7. Workforce capability review (V R7-10)
8. Reliability and technical design criteria (V R11-20)
9. Customer communication (VI R1&5)
10. Call center capability testing (VI R2)
11. Estimated Time of Restoration (ETR) methodology (VI R3-4)
12. Vegetation management program (VIII R1-2)
13. Financial and operational metrics (VII R3-4)
14. Best practice benchmarking (VIII R1-2)

With guidance from the Steering Committee, the first team listed above developed and defined the Emergency Management Vision and Policy Statements, which are designed to be consistent with the

Corporate Mission Statement and are focused on reliability, outage prevention, response and communications with our customers and other stakeholders.

## **Emergency Management - Vision**

*“The Company strives to meet our customers’ needs through effective emergency risk assessment, mitigation, preparedness, response and communications. Our goal is to achieve excellence as an industry leader in emergency management performance.”*

## **Emergency Management - Policy Statement**

*“Aligned with our commitment to “The Way We Work<sup>1</sup>,” the Company strives to utilize effective emergency management principles that enhance the Company’s ability to provide safe and reliable energy services and its ability to communicate timely and accurate information to our customers and stakeholders by:*

- *Conducting effective risk assessments for operating and business functions,*
- *Developing appropriate prevention or risk mitigation strategies,*
- *Implementing comprehensive emergency preparedness programs,*
- *Responding with appropriate resources to address the emergency,*
- *Communicating with customers and other stakeholders timely and accurate information using voice, Internet, media and other appropriate methods,*
- *Recovering from events expeditiously, and,*
- *Improving continuously.”*

The Vision and Policy Statements establish the broad framework which defines the Corporate Emergency Management Strategy (CEMS) upon which each emergency management initiative will be developed, implemented, measured for effectiveness, and enhanced as needed. The CEMS establishes a consistent approach which serves to improve the effectiveness of our overall emergency management programs, resulting in enhanced service to our customers and the communities we serve. While the application of these concepts is currently being focused on Electric Operations initiatives involving electric distribution reliability, emergency preparedness, and restoration, the strategic framework was developed in a manner to allow for effective application by Emergency Management for all operating organizations within Con Edison.

In an effort to gauge the effectiveness of our initiatives, we are actively reviewing existing metrics, and developing enhanced and new emergency management performance measures. These performance measures will include metrics covering areas such as storm preparation, customer contact, estimated restoration times for service outages, and communication with municipal agencies.

Con Edison has communicated extensively with Department of Public Service (DPS) Staff during the development of the strategic framework and the evaluation of the recommendations relative to its

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<sup>1</sup> The six core principles of The Way We Work — plan the work and work the plan, seek and accept responsibility, communicate openly, work in teams, improve continuously and celebrate success.

emergency management strategy. Con Edison will continue to work closely with DPS Staff as the Company's strategic plan is implemented. In addition, Con Edison will develop a plan to communicate with and receive feedback from our major stakeholder groups. These enhanced communications will discuss specific improvements the Company is making to its emergency management plan, how those improvements will benefit customers and the community, and the appropriate role that customers and communities can play in the plan's success. In addition to the Public Service Commission and DPS Staff, key audiences that will be directly served by targeted and regular communications include affected state and local government agency officials, other emergency responder organizations, the media, and customers. The message will be delivered through the corporate Web site, press releases, the customer newsletter, targeted interest group meetings, and e-mail. The ultimate goal of these communications is to demonstrate to stakeholders that Con Edison is making the necessary changes to its corporate and operational priorities, planning processes, and organizational effectiveness to achieve excellence in its emergency management performance.

## **Key Initiatives**

The following highlights the key initiatives to be undertaken as part of the Master Implementation Plan (MIP). As noted below, many of these new initiatives are underway or will be implemented prior to Summer 2008. Additional detail regarding these and other initiatives are included in the MIP.

- **Achieving Organizational Clarity**

In order to establish organizational clarity both internally and externally, Con Edison will consolidate and centralize the emergency management functions. Accordingly, corporate responsibility for the emergency management in electric operations for Con Edison and for Orange and Rockland Utilities, Inc. (O&R) will be transferred to Con Edison's Emergency Management organization. The transfer to corporate responsibility will help define and communicate emergency management roles and responsibilities and establish organizational clarity to employees and external stakeholders.

Furthermore, in an effort to highlight the focus on emergency management within the corporation, Con Edison has separated the responsibility for security away from Corporate Emergency Planning. The separation of these organizations is intended to enhance executive oversight for each of these important organizations.

The reporting enhancements are tentatively scheduled to be completed by April 15, 2008.

- **Customer Communication Enhancements**

Con Edison has been significantly expanding its customer communication efforts, both in anticipation of and during outage events. The educational communication program includes Company publications, the corporate Web site, and a substantial public education campaign on radio and in newspapers. As discussed further below, during outage events, the Con Edison Web site now provides customers with useful event-related information and receives important outage information from customers.

- **Website Enhancements**

The Company has improved its Web site to enable customers to report an electric service problem or to check on the status of a previously reported service outage. Customers are able to perform these activities by simply providing either their account number or by entering the phone number linked to their account and verifying the address of the location of the outage. The Company is in the process of improving the mapping function on its Web site to allow customers to improve access to information with respect to the scope of an event in a particular geographic area. Most recently, the Company developed and implemented Web pages to display photos of storm and other outage damage and the Company's restoration efforts. Going forward, Con Edison will research and implement those best practices and new and improved technologies that will help to provide effective web-based communications with employees, customers, the public, the media and public officials. The enhanced mapping function will be available before summer 2008.

- **Global Estimated Time of Restoration**

Con Edison continues to enhance its processes to be able to provide customers estimated times of restoration. On a day-to-day basis, Con Edison provides customers an estimated time of restoration when a crew is dispatched to the reported outage. Con Edison is committed to provide a global estimated time of restoration not later than 12 hours after the end of a significant storm. However, for major storms where there is significant physical system damage, up to 24 hours, may be required to issue a global ETR. In addition, as the Company progresses through damage assessment, Con Edison will refine its estimated time of restoration. Historically, the availability of damage assessment information has impacted the accuracy and timeliness of the estimated time of restoration. To improve this process, an enhanced trouble analysis and damage assessment process, coupled with a new global estimated time of restoration matrix, will be in place by summer 2008 for use during major overhead storm events. It is anticipated that the improved processes and matrix will assist in providing timely and accurate global estimated times of restoration. Con Edison will also include a communication strategy as part of the matrix that will permit the Company to effectively communicate timely global estimated restoration times based upon historical information.

- **Tree Trimming**

Trees overhanging branches falling onto electric power lines are generally the principal cause of outages during significant weather events. Con Edison recognizes that tree trimming is one of the most effective means of maintaining reliability. Therefore, in 2006 the Company implemented a three-year preventive trimming cycle with enhanced clearance requirements. These enhanced clearance requirements increase the distance that trees and branches need to be cut away from the electric power lines, thereby making the Company's trimming requirements more stringent and effective.

Even though Con Edison places a high priority on tree trimming, many trees that hit its electric power lines cannot be trimmed. This is because these trees are outside the right of way within which Con Edison is permitted to trim. As a result, Con Edison has engaged experts to conduct a study to examine the causes of tree damage in Westchester County during weather events and identify steps to mitigate tree damage. The Company expects this study will support efforts currently being proposed to address identification and removal or other mitigation of potentially dangerous trees located outside the right-of-way on private property.

- **Municipal Task Force**

Con Edison is working with the municipalities in Westchester County to develop more effective ways to work collaboratively to improve the overall restoration of customers, improve the response to public safety threats, and improve emergency communications. The Municipal Task Force continues to work with municipalities to identify critical infrastructure that are important to the community. Information identified by the municipalities regarding their critical facilities (i.e., sewage pumping stations, water treatment facilities) is utilized to establish priorities for restoration efforts. One result of this effort is a significant expansion of Con Edison's municipal liaison program in 2008. The municipal liaison program places Con Edison employees in municipalities during the restoration of an event to help coordinate the Company's restoration efforts with the municipality's needs. The Company has doubled the number of municipal liaisons and will complete the training by summer 2008.

- **Workforce Capability**

Con Edison is actively hiring for key field positions and is using contractors to supplement the workforce. The Company is reviewing the process that is used to match the number of qualified employees in the Line Constructor and Underground Worker career paths to a level that is appropriate for the response to storms. Additionally, to maximize the utilization of Company personnel and resources, the Company is in the process of expanding its program that provides storm assignments to employees.

- **Establish Benchmarking / Best Practices Process**

Following a comprehensive evaluation of the benchmarking and best practices processes utilized by Con Edison and throughout the utility industry, the Company has identified opportunities to implement an enhanced benchmarking and best practices program. The Corporate Emergency Management organization will be responsible for gathering, analyzing, and communicating benchmarking data, and establishing accountability for implementing emergency management best practices.

- **Focused Drill Program**

The Audit Report found that Con Edison has made a major commitment to emergency drills and has used them as preparedness enhancers, refreshers, and learning experiences. To improve the current drill program, the Corporate Emergency Management organization will be responsible for establishing consistent policies, procedures, responsibilities, and methodologies for designing, conducting and assessing drills. These enhancements will result in better executed drills and follow up and improved preparedness.

- **Incident Command System (ICS)**

Historically, Con Edison has placed significant emphasis on and maintained a solid commitment to ICS, which has placed the Company at the forefront of the industry. Furthermore, the use of ICS provides great benefits for the management of large-scale events. Con Edison is enhancing the application of ICS by expanding formal training, improving resource tracking, refining the development of plans made during major system events, and utilizing specially trained personnel to facilitate using the ICS during major events. Full implementation of ICS will include establishing

Incident Management Assist Teams (IMATs). These IMATs will be available to respond to Serious and Full Scale incidents. In addition, the IMATs will participate and assist in drill/exercise development and will facilitate the operational planning process during incidents.

- **Comprehensive Emergency Response Program (CERP)**

The CERP provides planning and response guidance to all regions responding to electric emergency events. Utilizing an ICS structure, the CERP contains substantial emergency response information, including reference tables that link required resources to event classifications. Con Edison will improve its CERP by providing Company personnel with a greater understanding of the role of the CERP, and the processes and procedures included in the CERP and utilized during emergency outage events.

- **Enhanced Weather Modeling**

Con Edison has initiated a Research and Development project to examine the feasibility of applying cutting-edge technology to forecast weather at a local level and the near real-time impact of weather conditions on the overhead electrical system. It is anticipated that the forecast and real-time weather data will allow Con Edison to more accurately predict and respond to damage to its electric distribution system, allowing Con Edison to better mobilize resources when responding to storms.

- **Initiation of a Collaborative**

Con Edison will initiate a collaborative program working with DPS Staff to develop best practice emergency preparedness and major outage restoration programs. This collaborative will strive to include participation by electric, gas and telecommunication utilities in New York State.

Con Edison continually seeks to improve its emergency management program and recognizes the audit recommendations as an opportunity to enhance its overall emergency preparedness and response, thereby better serving its customers. Con Edison is firmly committed to achieving significant performance improvements. Moreover, Con Edison continues to be committed to maintaining the reliability of its systems and anticipates that the emergency management initiatives will have a positive impact on the reliability of the service provided to customers. Con Edison will continue to work collaboratively with DPS Staff and its stakeholders as it implements its CEMS.

## **II Master Implementation Plan (MIP)**

The Emergency Management MIP will facilitate the implementation of the CEMS in a manner consistent with the overall Con Edison of New York, Inc. (CECONY) strategy. This consistency has been established and is memorialized through the alignment of the Corporate Mission Statement and Corporate Strategy with the Emergency Management Vision and Policy Statements (Attachment B). The Vice President of Corporate Emergency Management has overall responsibility for implementing the CEMS following the process outlined in the MIP. The MIP emphasizes the priority efforts of communicating the plan, achieving organizational clarity and developing performance measures. These efforts are consistent with the Policy Statement and are necessary to initiate the multi-year commitment to implementing the MIP.

### **Communications Plan**

This section of the MIP states how Con Edison's plan will communicate its MIP to the Company's major stakeholders; employees, customers, NYS Public Service Commission/DPS Staff, local and state elected officials, municipal offices of emergency management, and the media. When fully implemented, this plan will demonstrate to stakeholders that Con Edison has made the necessary improvements to its corporate priorities, planning processes, infrastructure investment, and organizational effectiveness as they relate to improving the Company's Emergency Management Program. The communications plan will:

1. Highlight the role of senior management in communicating and implementing the overall vision and priority for the Company's approach to reliability and emergency management;
2. Clearly define and communicate Emergency Management policies that are sensitive to the unique circumstances surrounding the Company's service territory and address customer expectations; and
3. Emphasize the holistic nature of reliability and outage management to Company employees.

### **Addressing Key Stakeholders**

There are two key sets of stakeholders that the Company needs to target regarding the CEMS and its MIP: internal and external. Internal communications will focus on effectively communicating the Company's Emergency Management Vision and Policy Statement, senior management's commitment to the successful implementation of the strategy, and roles and responsibilities of employees in this initiative. External communications will inform customers, elected officials, municipal emergency management officials, the media and other Con Edison stakeholders about how the Company will implement its MIP in communities and lay out how the Company will report on its implementation plan progress and highlight key milestones as they are reached.

## **1. Internal Communications**

Internal communications will foster credibility for and understanding of the Emergency Management vision, policy, and CEMS among Con Edison employees. The internal communications plan is designed to inform and educate employees about the CEMS and Emergency Management – MIP, its critical importance to the Company, senior management’s support of and long-term commitment to the program, and each employee/department’s role in the emergency management process. Under this approach, employees understand they are part of the overall strategic plan and are kept up to date on program developments and implementation. Employees will have an opportunity to understand and discuss the CEMS and provide feedback during and after its implementation. Additionally, training will be provided so that Con Edison employees understand the importance of the CEMS and their responsibility in assuring they are knowledgeable and fit to perform in their respective position.

Employees will be notified about and provided access to; the full plan via the Company intranet, employee newsletters and emails, along with summary materials about the plan. Training programs will be developed and scheduled for all affected employees to provide a holistic message about the Emergency Management vision, policy, goals and objectives. Job-specific and department-specific materials will also be developed, as needed. Throughout the implementation of the plan, ongoing message delivery and reinforcement will facilitate continued employee awareness of the plan. Message delivery vehicles will include employee newsletters, a dedicated intranet site, emails, online videos and employee meetings. Key internal communications steps are listed below:

- A. Concurrent with the Emergency Management compliance filing with the Public Service Commission, send an announcement in the form of an e-mail letter from the Vice President of Emergency Management to all employees discussing the Corporate Emergency Management Vision and Policy Statement, and a link to the full MIP.
- B. Post on the Company Intranet the new CEMS, the new Emergency Management organizational structure and staff appointments, including organizational charts, position descriptions, and vision statement on the intranet.
- C. Publish a headline article in the employee newsletter discussing the importance of the new plan, with links to plan, new organizational structure, upcoming employee training programs and requirements, etc.
- D. Highlight Emergency Management department roles and initiatives in the employee newsletter and announce the completion of major Implementation Plan milestones.
- E. Develop and deliver training programs for affected employees, both within and outside of Emergency Management, to provide a holistic message about the emergency management Vision, Policy Statement and Goals and Objectives, and to include job-specific and department-specific materials as needed.

## **2. External Communications**

External communications will foster credibility for the Emergency Management vision, policy, CEMS and MIP among Con Edison’s external stakeholders. These communications will discuss how the strategy will be implemented, how it will benefit customers and communities, and the role that customers and communities can play (where appropriate) in the MIP’s success. Key audiences that

will be directly served by targeted and regular communications include the Public Service Commission, affected state and local government agency officials, other emergency responder organizations, the media, and customers. The ultimate goal of these communications is to demonstrate to stakeholders that Con Edison is making the necessary changes to its corporate and operational priorities, planning processes, and organizational effectiveness to achieve excellence in its emergency management performance

Throughout the implementation of the plan, ongoing message delivery and reinforcement will facilitate continued stakeholder awareness of and build support for the Company's emergency management efforts. Message delivery vehicles will include the corporate Web site, press releases, the customer newsletter, public meetings, targeted interest group meetings, and e-mail. Key external communications steps are listed below:

- A. Make compliance filing containing the Emergency Management – MIP with Public Service Commission on March 3, 2008.
- B. Promote the availability of CEMS and the MIP to customers in Customer News and explain how these will benefit customers and the community. Continue to educate customers on actions they can take to prepare for an emergency, including loss of power, and associated inconveniences.
- C. Include appropriate messages in print and radio energy education campaigns. These efforts will reinforce the message that customers should contact Con Edison during emergencies, the various ways they may do so, and direct them to the Web site for additional information.
- D. Provide tailored communications, including public and one-on-one meetings where appropriate, with key state and local organizations explaining the plan and its significance to them, including how any existing relationships are (or are not) affected. These groups will include the County Executive, Municipal Officials Association, Municipal Managers Association, Commissioner of Emergency Services, New York City Office of Emergency Management, Business Council of Westchester, Westchester County Association, and the Company's local not-for-profit summit held annually in Westchester.
- E. Hold community meetings and targeted interest group meetings explaining the new plan, its importance to Con Edison, and how and why it will result in improved service and positive outage response results for the community.
- F. Make quarterly progress reports to the Public Service Commission regarding the Company's progress implementing the MIP, highlighting key implementation milestones.
- G. Post progress reports on the Web site with summary information, key talking points and messages where appropriate, and notify customers and other stakeholders about relevant program implementation milestones via the Web site, newsletters, community and stakeholder meetings.
- H. Survey key state and local government agencies to assess gaps between what the Company provides today in terms of communications and information resources during or in anticipation of an emergency and what these organizations need/want from the Company.
- I. Establish additional feedback mechanisms to measure target stakeholder understanding and acceptance of the Company's emergency management program, and related communications, such as a dedicated response mechanism on the Web.

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- J. Measure success/failure of communications and outreach efforts vs. defined communications goals and objectives at the end of the year with follow-up surveys/questionnaires of customers and other key stakeholders.
- K. Make necessary adjustments to communications strategies/messages to make the corporate goals and objectives consistent with communicating the Emergency Management – Master Plan to stakeholders are met.

## Performance Measures

Performance measures are ultimately designed to improve the overall performance of the CEMS, including specific measures for maintaining preparedness and the priority of emergency management. (III R5) They rely upon a well defined strategy and goals/objectives. Initially for Electric Operations, the performance measures will serve various purposes, including: evaluating, controlling, motivating, promoting, budgeting and benchmarking the CEMS and its implementation by the Company. Performance measures are consistent with good business practices. Con Edison as part of the overall strategic process will be reviewing existing emergency management metrics and developing new performance measures based on the MIP initiatives as they are completed.

As the initiatives outlined in this implementation plan are being developed, appropriate performance measures will be defined. Below are goals/tasks upon which performance measures may be based.

- **Risk Assessment** - Develop and quantify operating risks faced by the Company
  1. Reporting percentage for Remote Monitoring System units system-wide
  2. Reporting overall inspection program for network secondary mains
  3. Reporting distribution transformer inspection and testing protocols, system-wide, tabulated by network
  
- **Prevention and Mitigation** - Develop prevention and mitigations programs
  1. Annual tree trimming goal (Vegetation Management)
  2. Reporting effectiveness of monitoring of the secondary electric system
  3. Reduction of Paper Cable (PILC) and thermally sensitive stop joints
  
- **Planning and Preparedness**
  1. Conducting annual drills (heat, winter storm, and overhead storm)
  2. Annual PSC Storm Response Plan Submittal
  3. Conducting annual Corporate Emergency Response Center exercise
  4. Conducting ICS Training commensurate with position held
  5. Reporting drill or training exercise results
  6. Reporting annual Life Sustaining Equipment (LSE) customer identification program
  
- **Response**
  1. Global Estimated Time of Restoration matrix performance
  2. Plan vs. Actual ETR performance analysis
  3. SAIFI / CAIDI Performance Indicators
  4. Inter-regional calls in advance of and during emergencies
  
- **Communication**
  1. Municipal conference call conducted
  2. Customer telephone service factor
  3. Effectiveness of LSE certification and re-certification process
  4. Effectiveness of annual communication of storm event information to customers and stakeholders

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5. Effectiveness of the Company's coordination with New York City Office of Emergency Management
  6. Effectiveness of the Company's coordination with Westchester County Department of Emergency Services Notification coordination
- **Recovery / Reassessment**
    1. Customer Satisfaction survey
    2. Lessons learned completed and appropriate opportunities implemented

**Master Implementation Plan Schedule**

<b>EMERGENCY MANAGEMENT ORGANIZATION (Team 2)</b>	<b>Start Date</b>	<b>End Date</b>	<b>Report Rec#</b>	<b>Task Owner</b>
Define emergency management responsibilities to be aligned with the Corporate Emergency Management Strategy (CEMS)	3/1/2008	4/1/2008	III-R7 thru R18	EM
Identify required staffing resources based on Electric Operations emergency management responsibilities	4/1/2008	5/1/2008	III-R7 thru R18	EM
Implement Electric Operations Emergency Management organizational changes (recruit, hire, train)	3/1/2008	12/31/2009	III-R7 thru R18	EM
Merge the existing Emergency Management organizations into a new central group known as Corporate Emergency Management.	1/1/2008	4/15/2008	III-R7 thru R18	EM Regional EM

<b>CORPORATE EMERGENCY MANAGEMENT STRATEGY (CEMS) COMMUNICATION PLAN (Team 1)</b>	<b>Start Date</b>	<b>End Date</b>	<b>Report Rec#</b>	<b>Task Owner</b>
Communicate With Public Service Commission	1/15/2008	On-going	III-R8 thru R19	EM Regional EM Regulatory Corp Communication
Communicate With Internal Stakeholders	3/3/2008	On-going	III-R8 thru R19	EM Regional EM Regulatory Corp Communication
Communicate With External Stakeholders	3/3/2008	On-going	III-R8 thru R19	Corp Communication
Evaluate Emergency Management Communications Plan effectiveness	6/1/2008	On-going	III-R8 thru R19	Regional EM Public Affairs

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<b>PERFORMANCE MEASURES (Team 13)</b>	<b>Start Date</b>	<b>End Date</b>	<b>Report Rec#</b>	<b>Task Owner</b>
Develop Emergency Management performance measures in support of the Emergency Management Policy and Principles	1/15/2008	1/1/2009	VII-R3 & R4	EM Regional EM
Incorporate Emergency Management performance measures in 2009 Emergency Management business plan	5/1/2008	1/1/2009	VII-R3 & R4	Human Resources EM Regional EM

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<b>EMERGENCY MANAGEMENT PROGRAM ENHANCEMENTS (Teams 3-12 &amp;14)</b>	<b>Start Date</b>	<b>End Date</b>	<b>Report Rec#</b>	<b>Task Owner(s)</b>
Team 3 -Refine Incident Command System (ICS) practices	2/1/2008	12/31/2010	III-R19 thru R22	EM Regional EM Logistics Distribution Eng Human Resources
Team 4 - Review and revise Corporate Emergency Response Program (CERP) to improve its structure, storm matrix, document access, approval process and content (including checklists)	2/1/2008	12/31/2009	IV- R1 thru R9	Regional EM
Team 5 - Expand and improve Emergency Management drill program	1/1/2008	5/31/2009	V-R1 thru R4	EM Regional EM Distribution Eng
Team 6 - Execute process, structural and training changes to increase the effectiveness of the trouble analysis unit.	1/3/2008	7/1/2008	V-R5 & R6	Regional Eng Regional EM
Team 7 - Refine and execute a hiring strategy for the field and engineering functions	6/1/2008	7/1/2011	V-R7 thru R10	Human Resources
Team 8 - Reliability and technical design criteria	See Team Summary		V- R11 thru V-R20	Distribution Engineering
Team 9 - Review and improve customer outage reporting, and web site communications	1/1/2008	1/1/2009	VI-R1 & R5	Corp Communication
Team 10 - Expand Call Center capacity and improve ability to implement lessons learned	1/1/2008	12/31/2008	VI-R2	Customer Ops
Team 11 - Design and implement an improved process to establish Global Estimated Time of Restoration (ETRs)	1/1/2008	12/1/2008	IV-R3 & R4	Regional EM Customer Ops
Team 12 - Continue to expand Bronx Westchester vegetation management program to gain better understanding of the Urban Forest	1/1/2008	12/31/2011	VII-R1 & R2	Bronx Westchester Const
Team 14 - Establish centralized Emergency Management (EM) benchmarking and best practice program	3/1/2008	1/31/2009	VIII-R1 & R2	EM

**Pre-Summer Enhancements**

Category	Task	End Date	Report Rec#	Task Owner	Deliverable(s)	Team
CERP (included with 4/1/2008 part 105 filing)	Update Electric Operations Corporate Emergency Response Program (CERP) to include changes to Distribution Electric Command Post (DECP) organizational structure, name and responsibility and establish procedures to more clearly align its role in the Incident Command System (ICS) process	3/31/2008	III-R20	Regional EM	Procedures and practices (written)	3
CERP	Conduct the annual review and revision of the CERP in accordance with part 105 for submittal by 4/1/2008	4/1/2008	N/A	Regional EM	Procedures and practices (written)	N/A
CERP (Post 4/1/2008 part 105 filing)	Update Electric Operations Corporate Emergency Response Program (CERP) to reflect the merging of the existing Electric Operations – Emergency Management and Orange and Rockland Utilities’ Emergency Planning with Corporate Emergency Planning and Security into a new central group known as Corporate Emergency Management and delineate the roles and responsibilities of the organization.	4/15/2008	III-R8 thru R19	EM Regional EM	Analysis Document Intra-company communications (written, meetings) Procedures and practices (written)	2
CERP (Post 4/1/2008 part 105 filing)	Update Electric Operations Corporate Emergency Response Program (CERP) to reflect the process changes to trouble analysis unit including <ul style="list-style-type: none"> <li>• Developing learning objectives and course materials for "Analysis to Action" training for Trouble Analysis Unit [TAU] staff members.</li> <li>• Identify Trouble Analysis Unit [TAU] trainer resources, venue and schedule</li> <li>• Complete cross-function System Trouble Analysis and Response (STAR) training</li> </ul>	6/1/2008	V-R5 & V-R6	Regional Eng Regional EM	Planning documents	3

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	<b>Task</b>	<b>End Date</b>	<b>Report Rec#</b>	<b>Task Owner</b>	<b>Deliverable(s)</b>	<b>Team</b>
CERP (Post 4/1/2008 part 105 filing)	Update Electric Operations Corporate Emergency Response Program (CERP) to reflect revised process for estimating Global ETR for overhead distribution system power outages taking into consideration weather, number of customers affected, storm job counts and storm severity.	6/1/2008	IV-R4	Regional EM	Procedures and practices (written)	11
CERP	Revise the CERP to include pre summer tasks in accordance with part 105 for submittal by 6/1/2008	6/1/2008	N/A	Regional EM	Procedures and practices (written)	N/A
Communication	Update the existing communication mechanisms to emphasize the customer outage reporting, and web site communications message in summer prep materials sent to elected officials, community organizations, strategic partners, and the media.	6/1/2008	VI-R1	Corp Communication	Planning documents	9
Communication	Update the existing Customer Central Web pages to include the enhanced mapping function.	5/1/2008	VI-R8	Corp Communication	Procedures and practices (written)	9

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Category	Task	End Date	Report Rec#	Task Owner	Deliverable(s)	Team
Training	Conduct the Bronx Westchester municipal liaison training for the recently identified augmented staffing.	6/1/2008	None	Regional EM	Procedures and practices (written)	6
Training	Implement Incident Command System (ICS) Planning Section courses to address Incident Action Plan development	3/31/2008	III-R21	Central EM	Procedures and practices (written)	3
Call Center Drill	Design Call Center capability test scenario	4/1/2008	VI-R2	Customer Ops	Planning documents	10
Call Center Drill	Perform Call Center capability drill exercise	5/1/2008	VI-R2	Customer Ops	None	10
Call Center Drill	Complete "Blue Sky" emergency calls test with TFCC	3/31/2008	VI-R2	Customer Ops	Analysis Document	10
Heat Drill	Develop standardized drill objectives and proficiency requirements for heat drill	4/15/2008	V-R1-4	EM Regional EM	Procedures and practices (written)	5
Heat Drill	Develop regional heat drill scenarios utilizing the standardized drill objectives and proficiency requirements.	4/15/2008	V-R1-4	EM Regional EM	Procedures and practices (written)	5
Heat Drill	Conduct regional heat drills utilizing the standardized drill objectives and proficiency requirements	6/1/2008	V-R1-4	EM Regional EM	Procedures and practices (written)	5

### **III Thematic Team Summaries**

#### ***Team 1 - Corporate strategy and master plan (III R1-7)***

Immediately following the receipt of the Audit Report, the Company proactively established an Emergency Management Steering Committee (Steering Committee) led by senior executives who are also members of the Corporate Policy Committee. Highlighting the role of senior management in communicating and implementing vision and priority for the Company's approach to reliability and emergency management, the Steering Committee is providing the leadership and vision necessary to develop the MIP and the CEMS (III R1). Furthermore, the Steering Committee is also providing oversight for the evaluation of the findings and recommendations contained in the Audit Report. To facilitate this process, all the findings and recommendations in the Audit Report have been grouped into 14 thematic categories. Therefore, fourteen teams have been established to address the respective thematic areas; each reporting to the Vice-President of Emergency Planning and Security who, in turn, coordinates team efforts with the Steering Committee.

The thematic team content areas and associated recommendations are:

1. corporate strategy and master plan (III R1-7)
2. emergency management organizational structure (III R 8-19)
3. incident command system refinements (III R20-22)
4. comprehensive emergency response program effectiveness (IV R1-9)
5. emergency drill program expansion (V R1-4)
6. trouble assessment process (V R5-6)
7. workforce capability review (V R7-10)
8. reliability and technical design criteria (V R11-20)
9. customer communication (VI R1&5)
10. call center capability testing (VI R2)
11. estimated time of restoration methodology (VI R3-4)
12. vegetation management program (VIII R1-2)
13. financial and operational metrics (VII R3-4)
14. best practice benchmarking (VIII R1-2)

These teams will review the recommendations and associated findings to determine how they fit into the strategic plan and integrate the implementation of recommendations through the new coordinated strategy where appropriate (see Attachment C; Emergency Management Policy Process Flow Diagram ). (III R6)

The Steering Committee recognized the value of having an experienced outside consultant review the process being undertaken by the Company. Davies Consulting Inc., a management consulting firm, was engaged to assist the Company in utilizing accepted emergency management processes and provide benchmarking guidance.

The Corporate Strategy and Master Plan team, working closely with the Steering Committee, has developed the CEMS, including the Emergency Management Vision and Policy Statements, which are consistent with the Corporate Mission Statement and Corporate Strategy, and keyed on reliability and outage management (Attachment B). (III R3)

### **Emergency Management Vision**

*“The Company strives to meet our customers’ needs through effective emergency risk assessment, mitigation, preparedness, response and communications. Our goal is to achieve excellence as an industry leader in emergency management performance.”*

### **Emergency Management Policy**

The commitment to be a recognized leader is further delineated in the Emergency Management Policy, which states:

*Aligned with our commitment to The Way We Work, the Company strives to utilize effective emergency management principles that enhance the Company’s ability to provide safe and reliable energy services and its ability to communicate timely and accurate information to our customers and stakeholders by:*

- *Conducting effective risk assessments for operating and business functions,*
- *Developing appropriate prevention or risk mitigation strategies,*
- *Implementing comprehensive emergency preparedness programs,*
- *Responding with appropriate resources to address the emergency,*
- *Communicating with customers and other stakeholders timely and accurate information using voice, Internet, media and other appropriate methods,*
- *Recovering from events expeditiously; and,*
- *Improving continuously.*

### **Emergency Management Principles and Goals**

To drive the enhancements to the Company’s Emergency Management program, Con Edison’s CEMS establishes seven principles and accompanying goals that embody the commitment to improve and will provide a framework for the future. These principles are an expansion of academically well-defined emergency management principles.

1. **Risk Assessment** - Conduct risk assessments utilizing a process that evaluates the likelihood of an event, its consequences and impact to customers, stakeholders and the public.
2. **Prevention and Mitigation** - Employ prevention and mitigation strategies to eliminate or reduce the frequency and consequences of events that adversely impact the community.
3. **Planning and Preparedness** - Ensure that response plans and preparedness initiatives are appropriate for the potential consequences of emergency events.

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4. **Response** - Perform an event assessment that ensures the utilization and response of the necessary resources to safely minimize hazards and restore service, in support of the community.
5. **Communication** - Communicate timely information to customers, employees and other stakeholders.
6. **Recovery** - Establish the appropriate process to restore the impacted system to its normal state and address the needs of the community.
7. **Re-assessment** - Utilize lessons learned from internal events and drills, while benchmarking with external organizations to improve the future implementation of emergency management principles.

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**Team 1 Implementation Plan:**

<b>CORPORATE EMERGENCY MANAGEMENT STRATEGY (CEMS) COMMUNICATION PLAN (Team 1)</b>	<b>Start Date</b>	<b>End Date</b>	<b>Report Rec#</b>	<b>Task Owner</b>	<b>Deliverable(s)</b>
Communicate with Public Service Commission	1/15/2008	On-going	III-R1 thru R7	EM Regional EM Regulatory Corp Communication	Planning documents Intra-company communications (written, meetings)
Communicate with internal stakeholders	3/3/2008	On-going	III-R1 thru R7	EM Regional EM Regulatory Corp Communication	Intra-company communications (written, meetings)
Communicate with external stakeholders	3/3/2008	On-going	III-R1 thru R7	Corp Communication	Planning documents Interviews/Meetings/Survey
Evaluate Emergency Management Communications Plan effectiveness	6/1/2008	On-going	III-R1 thru R7	Regional EM Public Affairs	Analysis Document Interviews/meetings/survey Performance measures, metrics analysis and reports Procedures and practices (written)

***Team 2 - Emergency management organizational structure (III R 8-19)***

Con Edison was one of the first utilities in North America to establish and utilize an emergency management group to oversee the Company's emergency management activities on a corporate level. Known as Corporate Emergency Management and Security (EM), the group is currently comprised of six Con Edison personnel (a Vice President and five technical staff) and is focused on corporate events and ensuring close coordination with the New York City Office of Emergency Management (NYC OEM) and Westchester County Department of Emergency Services (WC DES). In addition to EM, Con Edison's emergency management responsibilities are managed by Electric Operations Emergency Management (EOEM), Distribution Engineering (DE), and the regional Engineering groups. EOEM, which evolved from the storm team of the late 1990s, is comprised of six staff, and had responsibility for overseeing the emergency management preparedness functions in the four electric operating regions. DE was responsible for internal resource allocation for emergency management. The regional Engineering groups had responsibility for emergency management on a regional basis. Orange & Rockland's emergency planning and preparedness responsibilities are overseen by Electric Operations Emergency Preparedness (ORU-EM) and comprised of two staff.

The Audit Report notes that organizational improvements to the Company's planning and preparedness structure would improve preparedness for and responses to events and ultimately result in a coordinated strategy and approach to emergencies. The Emergency Management Organizational Structure initiatives address Recommendations III-R7 through III-R18. Con Edison will improve its emergency management structure through a re-organization that: combines EM, EOEM and ORU-EM into a single corporate organization with overall responsibility for Con Edison's emergency management activities, re-defines the responsibilities of DE, embeds staff from the newly-formed corporate group in the regional business units to manage region-specific emergency management, and assists the regional Engineering groups in their responsibility for emergency management. Ultimately, EM strategies will be applied across each of Con Edison's operating business units (i.e., electricity, steam, gas)

In order to develop a final organizational structure, create roles within that structure, and define the responsibilities of each member of the corporate group, the initiatives, key processes, deliverables, and resources required to accomplish each of the initiatives will have to be fully defined and finalized. More specifically, and based on the finalized requirements for the initiatives, Con Edison will develop a work and staffing plan that clearly delineates the appropriate qualifications, establishes the number of required resources, and provides a detailed timeline of when each of those resources will be required to accomplish the initiatives, as a whole. The Company anticipates that the work and staffing plan will be included in the next quarterly filing.

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**Team 2 Implementation Plan:**

<b>EMERGENCY MANAGEMENT ORGANIZATION (Team 2)</b>	<b>Start Date</b>	<b>End Date</b>	<b>Report Rec#</b>	<b>Task Owner</b>	<b>Deliverable(s)</b>
Define emergency management responsibilities to be aligned with the CEMS	3/1/2008	4/1/2008	III-R8 thru R19	EM Regional EM	Analysis Document Procedures and practices (written)
Identify required staffing resources based on Electric Operations emergency management responsibilities	4/1/2008	5/1/2008	III-R8 thru R19	EM Regional EM	Analysis Document Procedures and practices (written)
Implement Electric Operations Emergency Management organizational changes (recruit, hire, train)	3/1/2008	12/31/2009	III-R8 thru R19	EM Regional EM	Analysis Document

**Team 2 Risk/Cost/Benefit Analysis:**

As noted in the Audit Report, the current emergency management structure is driven by a strong team of capable people. Using these capabilities to drive the organizational changes highlighted above will clearly benefit Con Edison in how the Company plans and coordinates its response to emergency events. In addition, and from a resource perspective, Con Edison staff will be more efficiently utilized and emergency management activities will be consistent across the entire organization.

**Team 3 - Incident command system refinements (III R19-22)**

The Incident Command System (ICS) has been a cornerstone of Con Edison's emergency response and restoration efforts for more than a decade. The policy mandating the use of ICS at Con Edison is established in Corporate Instruction 260-4, *Corporate Response to Incidents and Emergencies*, and the structure and operational use of the system is explained in greater detail in Con Edison's Comprehensive Emergency Response Program (CERP). The current Con Edison ICS approach incorporates the ICS organizational structure, the procedures for activation of the system during events, and a robust training process, including an online class, a one-day session, and an advanced two-day session.

The Audit Report acknowledged that Con Edison has placed significant emphasis on and made a solid commitment to ICS which places the Company at the forefront of the industry (III-F19). Furthermore, the Audit Report found that the use of ICS has provided a great benefit in helping to manage large scale events. Finally, the Audit Report noted that Con Edison's relationship with the NYOEM and other related emergency organizations has had a positive impact on emergency response.

Notwithstanding the above, the Audit Report notes that improvements to Con Edison's existing program might positively affect future responses. The ICS initiatives address Recommendations III-R19 through III-R22. Con Edison will improve its ICS program through initiatives that improve resource tracking, realign the Distribution Engineering Command Post (DECP) function within ICS, refine the process for developing Incident Action Plans (IAPs), and improve the use of Incident Management Assist Teams (IMAT) during drills and upgraded or serious events.

From a resource typing perspective, and to better track and monitor, as well as provide current information to operating organizations, a "Logistics Equipment Management System" (LEMS) is being developed. Although Con Edison sees the benefits of the Federal Emergency Management Agency's (FEMA) resource typing plans, the current state of the effort and FEMA's generic approach make adoption of FEMA's resource typing difficult to implement at this time. Con Edison will re-visit the issue at a later date. (III-R19)

Con Edison will update the current DECP procedures and organization to more clearly identify and align its role in the Company's overall ICS organization, starting with changing the name of DECP to Distribution Engineering Situation Room (DESR). In addition, the CERP and other appropriate Company procedures will be revised to address these changes to establish clarity of purpose and responsibility. The use of an IMAT during drill, exercises, and real-time incidents will also reinforce the ICS process. (III-R20)

Con Edison acknowledges that, overall, the application of the operational planning process and the development of IAPs vary from incident to incident, and between organizations. As a result, Con Edison will:

- Refine corporate procedures to better enforce the operational planning process for incidents;
- Review existing job descriptions and assignments related to the Planning Section and modify where necessary;
- Develop and conduct an ICS Planning Section training/course that establishes expectations for IAP development, uniformity of information, and detail; and

- Modify existing processes to facilitate the development of a single IAP through a unified planning process. (III-R21)

Con Edison acknowledges that IMATs have not been fully utilized in drills and emergencies and their use should be encouraged and expanded for Serious and Full Scale incidents and exercises. Full implementation of ICS will include establishing IMATs. These IMATs will be available to respond to Serious and Full Scale incidents or when requested by the Incident Commander. In addition, the IMATs will participate and assist in drill/exercise development and their sole role during incidents will be to facilitate the operational planning process **(Recommendation III R-22)**.

Finally, to sustain the ICS improvements and facilitate continued excellence in activation and use of ICS at Con Edison, a member of the Corporate Emergency Management organization will continue having primary responsibility and accountability for ICS oversight. Corporate Emergency Management personnel will be embedded in the regions to promote consistency between the corporate emergency management organization and regional ICS protocols.

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**Team 3 Implementation Plan:**

<b>EMERGENCY MANAGEMENT PROGRAM ENHANCEMENTS (Teams 3)</b>	<b>Start Date</b>	<b>End Date</b>	<b>Report Rec#</b>	<b>Task Owner(s)</b>	<b>Deliverable(s)</b>
Team 3 -Refine Incident Command System (ICS) practices	2/1/2008	12/31/2010	III-R19 thru R22	EM Regional EM Logistics Distribution Eng Human Resources	Analysis Document Planning documents Procedures and practices (written)
Utilize Federal Emergency Management Agency (FEMA) software standards where appropriate to improve resource typing efforts	3/1/2008	9/30/2009	III-R19	EM Logistics	Procedures and practices (written)
Make organizational adjustments to Distribution Electric Command Post (DECP)	2/1/2008	6/1/2008	III-R20	Distribution Eng Regional EM	Procedures and practices (written)
Develop and implement Incident Action Plan (IAP)	2/1/2008	12/31/2008	III-R21	EM Human Resources	Analysis Document Procedures and practices (written)
Define and implement Incident Management Assist Teams (IMAT)	4/1/2008	12/31/2010	III-R22	EM	Analysis Document Planning documents Procedures and practices (written)

**Team 3 Risk/Cost/Benefit Analysis:**

Benefits include better understanding of roles and responsibilities during events, improved responses, improved organizational structure and clarity, and enhanced coordination among response personnel.

***Team 4 - Comprehensive Emergency Response Program (CERP) effectiveness (IV R1-9)***

In 1999, Con Edison consolidated its regional storm response plans. By 2004, the plan was enhanced to the level of the CERP to include underground electric system emergencies. The CERP has seven distinct parts that address outage response both on an overall/corporate basis and on a regional basis (i.e., Brooklyn Queens, Bronx Westchester, Manhattan, and Staten Island). The CERP includes: Introduction (with Mission Statement), overview of the Incident Command System, Overhead Plan, Underground Contingency Plan, Program Review, Recovery Preparedness/Readiness, Reference Documents, Self Assessment/Lessons Learned, Definitions, Glossary and Cross Reference to the requirements of PSC Part 105. The Consolidated Plan is filed annually with the PSC and meets the requirements of Part 105

The Audit Report recognizes that the CERP has a wealth of emergency information that positively affects the Company's response to events. In addition, the Audit Report acknowledges that CERP tables, which link resources to event classifications, are the result of extensive planning efforts and positively affect the Company's emergency response efforts.

The Audit Report notes that improvements to Con Edison's existing CERP might positively affect future responses. The Comprehensive Emergency Response Program Effectiveness initiatives address Recommendations IV-R1 through IV-R9. Con Edison will improve its CERP through initiatives that generally provide Con Edison personnel with a greater understanding of the role of the CERP and the processes and procedures that are included in the CERP and that should be followed during emergency outage events.

More specifically, Con Edison acknowledges that the role of the CERP needs to be clarified and that the existing procedures, guidelines, checklists, and instructions should be updated to further define expectations and improve the usability of the document by emergency response personnel. (IV-R1, IV-R4)

In order to standardize distribution of the CERP, Con Edison will use the Emergency Management Web site to maintain and distribute updated versions of the CERP. Each of the process guides, which are described in greater detail below, will be updated by the process owners on at least an annual basis. Furthermore, in the event that significant changes are made to the document between annual updates, Con Edison personnel with emergency management responsibility will receive a timely briefing on the changes. (IV-R2)

The refinement of process procedures and guides, as detailed below, are designed to improve Company manager effectiveness under emergency conditions. In addition, the new format of the CERP will result in a more user-friendly document. (IV-R3)

In order to clearly define responsibility for approving emergency management documents, Con Edison will implement a procedure requiring that the CERP be signed by the Director of Emergency Management. Supporting procedures, guidelines, and processes, as detailed in each of the process guides, will be approved by each process guide owner. For example, the Damage Assessment process will be approved and reviewed annually by the Construction, Central Operations groups (the process owner). (IV-R5)

Action checklists are helpful tools, particularly when emergency response is infrequent. Each person who fills a key emergency response position (as indicated on the Incident Command organization charts in CERP) must review and update their checklists as appropriate.

Emergency Management will define the expectations for each checklist, the frequency of review, the processes for updating checklists, and the means of ensuring that up to date checklists are included and easily accessible on the EOEM Web site. (IV-R6)

Con Edison will develop a procedure to annually perform an analysis of past storms to review the criteria and assumptions used as the basis for the Plan, including staffing levels. (IV-R7) Following completion of the planning analysis, Con Edison will use the results to develop a framework and process for improved planning processes. (IV-R8) Utilizing the results of IV-R7 and IV-R8, EOEM will be accountable for ensuring that resource planning is being performed on a regional basis and in a consistent fashion. (IV-R9)

Con Edison will use the current CERP as a basis for development of a document that fully addresses the Audit Report recommendations. More specifically, Con Edison will divide the CERP into two separate documents – one for purposes of regulatory filings and one that includes process guides to assist ICS response personnel in performing their duties during any event resulting in the activation of the CERP. A review of the existing process will determine the revision schedule. More specifically, the process guides will outline procedures for the:

- Incident Commander
- Environmental, Health & Safety Officer (EH&S)
- Information Officer
- Liaison/Energy Services Officer (Municipal/Municipal Field Liaison Group)
- Customer Operations Officer
- Planning Section
- Trouble Analysis
- Damage Assessment
- Operations
- Logistics Section
- Administration/Finance Section

Each procedure will clearly detail the organizational structure, responsibilities, key relationships with other sections, training requirements, drills, and information systems needed. In order to sustain the CERP improvements and facilitate continued excellence in activation and use of the CERP at Con Edison, each of the process owners above will have oversight responsibility and accountability for the guides addressing their specific role.

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**Team 4 Implementation Plan:**

<b>Task</b>	<b>Start Date</b>	<b>End Date</b>	<b>Report Rec#</b>	<b>Task Owner(s)</b>	<b>Deliverable(s)</b>
Team 4 - Review and revise Corporate Emergency Response Program (CERP) to improve its structure, storm matrix, document access, approval process and content (including checklists)	2/1/2008	12/31/2009	IV- R1 thru R9	Regional EM	Analysis Document Planning documents Procedures and practices (written)
Review 2007 Corporate Emergency Response Program (CERP)	2/1/2008	3/31/2008	IV-R1& R4	Regional EM	Analysis Document Planning documents
Identify & update current distribution and revision processes	4/1/2008	10/1/2008	IV-R2	Regional EM	Analysis Document Procedures and practices (written)
Define expectations for each checklist, including frequency of review, the processes for updating checklists, and the means of ensuring that up to date checklists are included and easily accessible on the Electric Operations Emergency Management (EOEM) Web site	3/1/2009	4/1/2009	IV-R6	Regional EM	Analysis Document Procedures and practices (written)
Review 2008 Storm Classification Matrix criteria and assumptions	1/1/2009	3/31/2009	IV-R7, R8 & R9	Regional EM	Analysis Document Procedures and practices (written)

**Team 4 Risk/Cost/Benefit Analysis:**

Improving the CERP process will strengthen the Company's ability to effectively respond to emergencies. The development of standardized process guides will improve the effective use of resources across regional boundaries and will assign ownership for those who are responsible to lead specific functions. Improving the usefulness of the CERP for field operations will enhance their ability to execute the response and recovery plans defined in their functional area of responsibility.

***Team 5 - Emergency drill program expansion (V R1-4)***

Con Edison has utilized the Audit Report findings and recommendations as part of its comprehensive evaluation of the effectiveness of the Company's emergency management drill program. The Audit Report acknowledged that Con Edison's emergency drills are effective in terms of numbers, scope, applications, quality, and resources and that the Company appropriately uses drills to refresh skills, learn from prior events, and enhance preparedness. However, through its comprehensive evaluation of its existing program and the evaluation of the audit's findings and recommendations, Con Edison has identified additional opportunities to improve the overall effectiveness of the program. The Emergency Drill Program Expansion (EDPE) initiatives include items that address Recommendations V-R1 through V-R4.

Con Edison will improve its emergency management drill program through initiatives addressing organizational structure and drill program requirements. The organizational structure improvements will focus on organizational clarity and increased resources. The enhanced drill program requirements will expand and refine the emergency management drill program. The improvements to the organizational structure and enhancements to the drill program will be aligned with the CEMS principles of Planning, Preparedness, and Re-assessment established in the Company's CEMS. (V-R2)

Improvements in the emergency management drill program will:

- define requirements for drill frequency. (V-R3);
- standardize drill objectives including proficiency requirements;
- establish drill development guidance;
- include outside participation of appropriate external stakeholders (V-R4);
- modify the Action Tracking System to standardize documentation for recording and tracking implementation of improvements identified during drills (V-R1);
- establish accountability for completing improvement opportunities identified during drills;
- require update of written procedures to reflect identified process improvements;
- establish a mechanism to communicate across operating areas and commodities appropriate lessons learned.

In order to facilitate and sustain the enhancements to the emergency management drill program, dedicated personnel will be established as part of the emergency management organization. These individuals will have responsibility to oversee corporate development and implementation of significant drills. They will work closely with the emergency management personnel who are embedded in the operating organizations to enhance the standardization and overall consistent application of the emergency management drill program.

Although the implementation of the CEMS eventually will be applied to all operating business units (electricity, gas, steam), the initial implementation of the emergency management drill program will be focused on Electric Operations.

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**Team 5 Implementation Plan:**

<b>Task</b>	<b>Start Date</b>	<b>End Date</b>	<b>Report Rec#</b>	<b>Task Owner(s)</b>	<b>Deliverable(s)</b>
<b>Team 5 - Expand and improve Emergency Management drill program</b>	<b>1/1/2008</b>	<b>5/31/2009</b>	<b>V-R1 thru R4</b>	<b>EM Regional EM Distribution Eng</b>	<b>Analysis Document Procedures and practices (written)</b>
Develop standardize drill objectives and proficiency requirements for heat drill	10/1/2008	4/15/2008	V-R1-4	EM Regional EM	Procedures and practices (written)
Define requirements for drill frequency for Winter Drill Milestone	6/1/2008	8/30/2008	V-R1-4	EM Regional EM	Analysis Document
Identify resources required to manage drill program	9/1/2008	10/1/2008	V-R1-4	EM Regional EM	Analysis Document
Standardize drill objectives and proficiency requirements	10/1/2008	11/1/2008	V-R1-4	EM Regional EM	Procedures and practices (written)
Develop drill guidance and standardized documentation (templates)	11/1/2008	12/1/2008	V-R1-4	EM Regional EM Distribution Eng	Procedures and practices (written)
Enhance process for lessons learned; identification, tracking and implementation – procedure update	12/1/2008	1/1/2009	V-R1-4	EM	Procedures and practices (written)
Action Tracking System will also be modified to enhance notification of upper levels of management (Information Resource 3rd part vendor required, maybe longer)	1/1/2009	5/31/2009	V-R1-4	EM	Procedures and practices (written)
Revise appropriate procedures to include the process improvements identified in the drill program	2/1/2009	3/1/2009	V-R1-4	EM Regional EM Distribution Eng	Procedures and practices (written)
Revise Corporate Instruction CI-260-4 to include criteria for outside participation of appropriate external stakeholders	3/1/2009	4/1/2009	V-R1-4	EM	Procedures and practices (written)
Develop process for communicating lessons learned across operating areas and commodities	4/1/2009	5/31/2009	V-R1-4	EM	Procedures and practices (written)

**Team 5 Risk/Cost/Benefit Analysis:**

As a result of the work of this team and consistent with the Commission's January 2008 Order, Con Edison is finalizing its CEMS and has identified significant enhancement opportunities that will be realized through increased staffing. The resource (including staffing) requirements necessary to support the CEMS have not been finalized. The additional personnel will facilitate the EDPE initiatives and provide dedicated regional support to facilitate regional preparedness and standardization of plans and implementation strategies.

***Team 6 - Trouble assessment process (V R5-6)***

The Storm Recovery Group instituted in 1997 was established to ensure that the newly upgraded Westchester storm plan was implemented as written. The 1997 plan included improvements in the Company's damage assessment, trouble analysis, Estimated Time of Restoration (ETR), communications, restoration and support processes. As a result of the analyses performed by this group, Con Edison improved its trouble assessment process. Furthermore, Con Edison began using several outage management systems to aid in the restoration and response effort. System Trouble Analysis and Response (STAR) analyzes problems and tracks jobs on the Company's electric distribution system. The Emergency Control System (ECS) is a Con Edison-developed on-line Information Management System (IMS) mainframe system designed to provide features for monitoring and processing work created for emergency calls. Both of these systems have effectively supported the trouble assessment process at Con Edison since their implementations.

The Audit Report noted that the skill requirements, including those for damage assessors, are clearly defined in the CERP. Position checklists for emergency response personnel provide summaries of pre-emergency management, on-shift duties, change of shift responsibilities, demobilization, and communication procedures. In addition, the Audit Report acknowledged that Con Edison maintains reasonable resource levels of skilled field support personnel, including damage assessors during events. The Audit Report also notes that the training of Field Damage Assessors has been effective.

The Audit Report points out that improvement to Con Edison's existing trouble assessment process might positively affect future responses. The Trouble Assessment Process initiatives address Recommendations V-R5 and V-R6. Enhancements that Con Edison will make to fully address these recommendations include structural changes and improvements to the Trouble Analysis Unit (TAU), improved training for designated members of the TAU, and expanded STAR training. Since the January 18, 2006 storm, the trouble analysis/damage assessment process has improved continuously – including the cessation of manual grouping of jobs, by the TAU, in the later 2006 storms. Prior to the Audit Report, a Con Edison team analyzed lessons learned from the January storm and recommendations were implemented in order to improve the process.

In order to minimize instances of incomplete job packages and trouble assessments, and enhance communication and reduce analysis time at the TAU, Con Edison will reorganize the TAU to imbed the Damage Assessment Coordinators within this Planning unit. In addition, engineering technicians will be imbedded in the operations group to assist planners in assembling job packages. Con Edison will also enhance training for designated members of the TAU by requiring STAR training specific to assignments, annual refresher training, and training in processing of trouble work through the TAU. The final training piece is designed to enhance skills in: job priority communication; information standards for trouble communication; transitioning from municipal assistance to service restoration orders; trouble type referrals; and operating group functional capabilities. (VR-5)

Although Con Edison currently has formal STAR training, the Company believes that training can be expanded to include more practical application exercises and increased focus on TAU processes. STAR training has been developed and provided for the Trouble Analysis

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Designers, Engineering Staff, and Control Center operators in all regional Engineering groups. Each of these training courses was a five-day session for first-time users. In addition, Con Edison has developed and is currently implementing training for managers, supervisors, and clerical staff in Construction, which manages the damage assessment process. In order to accommodate the above classes, the Company's training center has assigned one full-time and two part-time trainers and set-up seven training stations. (VR-6)

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**Team 6 Implementation Plan:**

<b>Task</b>	<b>Start Date</b>	<b>End Date</b>	<b>Report Rec#</b>	<b>Task Owner(s)</b>	<b>Deliverable(s)</b>
<b>Team 6 - Execute process, structural and training changes to increase the effectiveness of the trouble analysis unit.</b>	<b>1/3/2008</b>	<b>7/1/2008</b>	<b>V-R5 &amp; R6</b>	<b>Regional Eng Regional EM</b>	<b>Analysis Document Facility Modifications Planning documents</b>
Identify facility locations for feeder cell teams for all categories of storm events (Brooklyn-Queens)	1/28/2008	2/15/2008	V-R5	Regional Eng Regional EM	Analysis Document
Complete IR wiring and hardware additions to Bronx-Westchester to accommodate feeder cells through a level 3A storm	1/3/2008	2/29/2008	V-R5	Regional Eng Regional EM	Facility Modifications
Make any facilities changes identified for Brooklyn Queens.	2/15/2008	6/1/2008	V-R5	Regional Eng Regional EM	Facility Modifications
Develop learning objectives and course materials for "Analysis to Action" training for Trouble Analysis Unit [TAU] staff members.	2/13/2008	4/16/2008	V-R5	Regional Eng Regional EM	Planning documents
Finalize training lists for Trouble Analysis Unit [TAU] staff	1/15/2008	2/29/2008	V-R6	Regional Eng Regional EM	Planning documents
Identify Trouble Analysis Unit [TAU] trainer resources, venue and schedule	2/13/2008	4/16/2008	V-R6	Regional Eng Regional EM	Analysis Document
Complete required Trouble Analysis Unit [TAU] training course	4/16/2008	7/1/2008	V-R6	Regional Eng Regional EM	None identified
Complete conjunctional System Trouble Analysis and Response (STAR) training see (VR-6)	1/15/2008	6/1/2008	V-R6	Regional Eng Regional EM	None identified

**Team 6 Risk/Cost/Benefit Analysis:**

The benefits of addressing the recommendations, as above, include in increased restoration efficiency and, potentially decreased restoration times. Risks associated with not performing the above improvements include a damage assessment process that is not optimized during events, as to the role of the process in the overall restoration and the functionality of STAR. STAR is an integral part of Con Edison's outage management system. Appropriate use of STAR, including knowledge of its functional specifics, is a necessary piece of the Company's restoration effort. Finally, and as noted in the Audit Report, failing to address the recommendations may result in continued incomplete job packages and trouble assessments, which could affect the restoration effort.

***Team 7 - Workforce capability review (V R7-10)***

To maintain a high degree of readiness, Con Edison continues to improve its CERP, specifically as it relates to the mobilization of a qualified work force. The Company has undertaken steps to enhance its response and recovery capability by developing the ability to increase and supplement its internal capabilities, including the acquisition of outside assistance. Through extensive training, the company has increased the availability and capability of a “supplemental” or non-traditional workforce for major outage events. This entails the utilization of employees from other commodities and support functions to assist with response and recovery efforts. Con Edison has increased its use of mutual aid from neighboring utilities and contract vendors, adding manpower to assist its internal resources and accelerate the restoration process. As part of its planning for a full scale emergency, the Company developed a database that identifies an emergency assignment for each employee.

The Audit Report correctly recognized that the mobilization of hundreds of employees and crews is a massive undertaking. It also recognized that the Company must do more than simply expand its pool of resources. A stable and base level of qualified employees, available to be mobilized at the earliest stages of an incident, is critical in setting the tone and maximizing the efficiency of the response effort. If the magnitude of the event is large enough, having this base work force available to “hold the line” is important, especially as external resources and non-traditional employees are acquired and mobilized to supplement the field work force. The Audit Report makes a number of findings and recommendations regarding the staffing issues that support a holistic view of outage management and response.

Con Edison agrees that it should review the planning process for filling key field positions and implement plans to increase the number of qualified employees in the Line Constructor and Underground Worker series, and has laid out a strategy to address this issue that includes the following (V-R7 and V-R8):

- Outline career paths for lead titles in Underground and Overhead;
- Distinguish between the term “Trainee” that was used in the Audit Report and the productive functions of a General Utility Worker (GUW) (helper);
- Determine the appropriate ratio of “Qualified” (lead) to “Helper” (GUWs);
- Identify areas where the ratio differs significantly from the preferred ratio;
- Develop a model that captures the ‘fall-out’ (attrition, promotion, transfers) as helpers progress to lead title;
- Predict the future make-up of the underground workforce based on current hiring and training projections;
- Identify opportunities to increase the retention rate of both lead and helpers;
- Identify opportunities to speed the progress of a helper to lead title; and
- Identify opportunities to recruit candidates with levels of experience or aptitude that will increase the likelihood of rapid progression to lead title.

Con Edison is evaluating the impact of high levels of overtime on the workforce as it relates to callout response rates, particularly overtime rates for Electric Operations and assessing these rates against historical averages, budget growth, and staffing levels. However, specific data relative to callout acceptance rates is neither available nor tracked. Therefore, any attempt to

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associate high levels of overtime with low callout acceptance rates would be purely speculative. To address this issue, Con Edison is considering acquiring and utilizing an automated callout system to speed the callout process and track various metrics around callouts.

Con Edison is also reviewing the hiring process for Engineering Designers and Technicians and will implement plans to increase the number of qualified employees. (V-R10) The Company's long term plans to address this issue include:

- Outline career paths;
- Develop a model that captures the 'fall-out' as junior designers progress to senior designer;
- Predict the future make-up of the designer family based on current hiring and training projections;
- Identify opportunities to increase the retention rate and speed the progress of junior designer; and
- Identify opportunities to recruit candidates with a level of experience or aptitude that will increase the likelihood of rapid progression to lead title.

Con Edison will further refine these proposals and leverage the work underway to address the staffing and planning process for Engineering Designers and Technicians.

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**Team 7 Implementation Plan:**

<b>Task</b>	<b>Start Date</b>	<b>End Date</b>	<b>Report Rec#</b>	<b>Task Owner(s)</b>	<b>Deliverable(s)</b>
<b>Team 7 - Develop and Execute a hiring strategy for the field and engineering functions</b>	<b>6/1/2008</b>	<b>7/1/2011</b>	<b>V-R7 thru R10</b>	<b>Human Resources</b>	<b>Planning documents Procedures and practices (written)</b>
Develop and Implement Succession plan for the Field organization	9/1/2008	12/31/2009	V-R7	Human Resources	Planning documents Procedures and practices (written)
Implement a new callout system and set minimum response rates	1/1/2009	7/1/2011	V-R8 & R9	Human Resources	Procedures and practices (written)
Develop and Implement Succession plan for the Engineering organization	6/1/2008	12/31/2008	V-R10	Human Resources	Planning documents Procedures and practices (written)

**Team 7 Risk/Cost/Benefit Analysis:**

A qualified work force is needed to maintain a high degree of readiness. Implementing these recommendations will enable Con Edison to enhance its emergency response and recovery capability by developing a stable and base level of qualified employees available to be mobilized at the earliest stages of an incident. This is critical in setting the tone and maximizing the efficiency of the response effort. If the magnitude of the event is large enough, having this base work force available to “hold the line” is particularly important, especially as external resources and non-traditional employees are acquired and mobilized to supplement the field work force.

***Team 8 - Reliability and technical design criteria (V R11-20)***

As part of the response to the Audit Report, Con Edison has separated all technical recommendations or issues raised in the Reliability section of the Report from all other recommendations included in that section. It should be noted that the vast majority of the technical recommendations made in the Audit Report have either already been addressed or are currently being addressed in Case No. 06-E-0894.

The Audit Report addresses reliability through analysis of four topics: tree trimming practices and performance; O&M and capital spending; reliability; and reliability impacts on management compensation. With respect to tree trimming, the Audit Report notes that Con Edison has: increased clearances (expanded line clearance standards); conducted inspections prior to trimming; increased communication with community leaders; developed new written material on tree maintenance; demonstrated commitment to forestry professionals; and established a process to proactively contact landowners prior to trimming. In addition, the Audit Report recognizes that the Company has increased its tree trimming expenditures in Bronx/Westchester area by approximately 80% in 2006. The expenditures were further increased in 2007.

Regarding O&M and capital spending, the Audit Report acknowledged that Con Edison's Capital Budgeting process follows a traditional utility process and addresses major categories associated with system reliability, including: load relief/capacity improvement; facility obsolescence; reliability/availability: environmental; safety/government regulatory requirement; cost savings/operations improvement; retirement; and other. In addition, Con Edison's O&M reports and budget projections provide significant detail on programs completed and budgeted. These reports demonstrate that reliability continues to be one of Con Edison's priorities in work performed on the electric distribution system. In 2007, Con Edison undertook numerous initiatives designed to improve reliability, including, but not limited to: a distribution system relief program; distribution feeder relief; distribution transformer relief; a program designed to reduce feeder restoration times; and engineering modeling enhancements.

Con Edison prepares and distributes, on a monthly basis, a report entitled "Electric Distribution System Performance." This report provides internal Con Edison stakeholders with an overview of how the distribution system performed during the previous month through calculation of performance measures (SAIFI and CAIDI) on both the network and non-network system. The company then provides a year-to-year comparison and a five-year monthly average. Similarly, the monthly value is ranked relative to the monthly value reported in each of the last 20 years. Overall, Con Edison tracks the performance measures against targets, internal goals, and minimum standards developed by the PSC. Finally, the report provides a description of all outages involving 500 or more customers. By creating and disseminating such a report, Con Edison has taken a proactive approach to tracking reliability and ensuring future improved performance.

**Reliability Performance (Section VII – Findings F16-18)**

Finding VII-F16 (p. 197) states that Con Edison's "reliability has deteriorated in recent years and continues to worsen." In support, the Audit Report (p. 197) cites a "trend" based on increases in reliability performance measures from 2004 to 2006.

Reliability performance measures began to deteriorate in Con Edison's distribution system in recent years. ... For the last three years, all four [reliability measures] measures have increased. ... [T]he trend is clear. All of the performance indices have increased since 2004.

These findings are not supported by appropriate analysis. These short-term performance variances do not demonstrate a trend. For example, while the Audit Report is correct that 2005 non-network interruption frequency (SAIFI) performance of 506.7 was "the 19<sup>th</sup> worst year out of the last twenty," performance both before and after 2005 was significantly better. Performance in 2004 was 392.7 and performance in 2007 was 380. The 2004 and the 2007 performance were each better than the 23-year average of 399 and ranked 10<sup>th</sup> and 9<sup>th</sup>, respectively, in the prior 20 years.

Similarly, the Audit Report also provides tables containing 22 years of performance data (Exhibits VII-10 and VII-11) and, incorrectly concludes that the data "straight forwardly portrayed Con Edison's decline." However, the report includes a graph of 11 years of that data (Exhibit VII-9, p. 199), which tracks the Company's interruption frequency (SAIFI) performance from 1996 through 2006, and clearly illustrates that Con Edison's network and non-network reliability performance has been steady and has not declined.

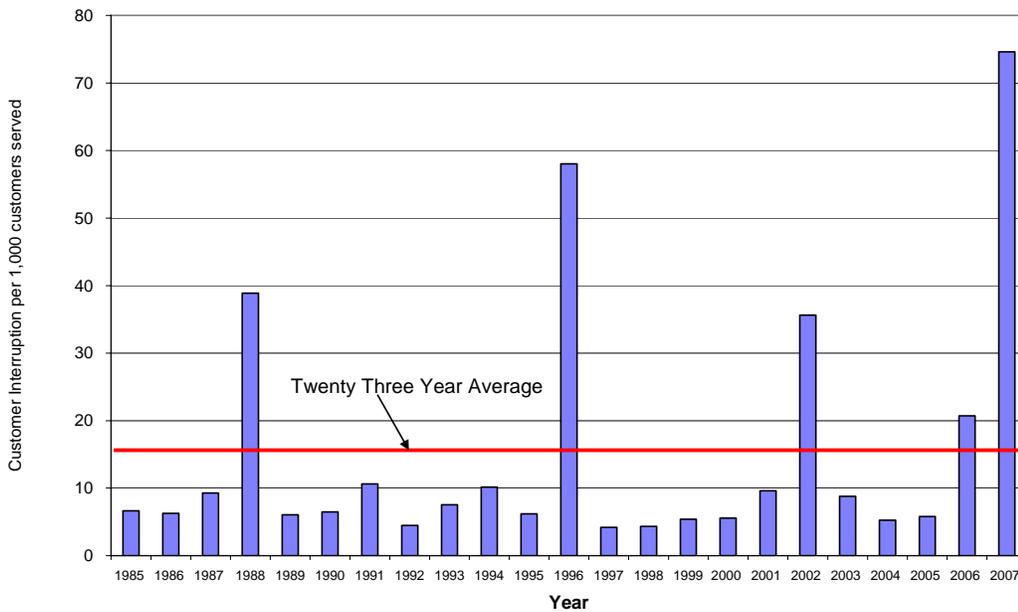
The fact is that Con Edison's reliability has remained steady and consistently high over the last two decades. The attached charts, titled "Twenty-Three Year Network SAIFI Performance" and "Twenty-Three Year Non-Network SAIFI Performance," prepared by Con Edison, show the steady performance of network and non-network interruption frequency (SAIFI) from 1985 through 2007.<sup>2</sup>

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<sup>2</sup> The charts reflect the same 22-year (1985 to 2006) data provided in Exhibit VII-10 of the Audit Report, plus 2007 data.

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Twenty Three Year Network SAIFI Performance



The Network SAIFI chart (above) shows consistent performance without deterioration from year to year with an extremely low level of outages (generally fewer than 10 customers per 1,000 affected by an outage in a year). The several outlier years showing higher outages each reflect an atypical event that skewed reported annual performance and is not an indicator of a deteriorating network reliability trend.<sup>3</sup>

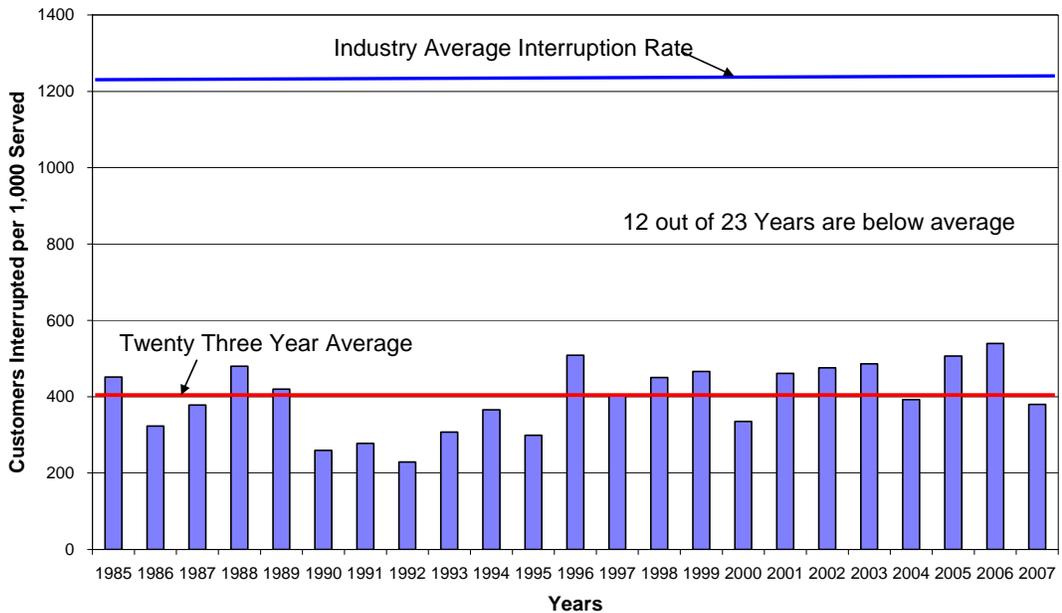
<sup>3</sup> The outage tolerance level on network system is extremely low. The Company supplies electricity to about 2.3 million network customers. A \$5 million penalty is triggered when a total of about only 35,500 network customers lose electric service for just five minutes during the course of a year. This “penalty” threshold can be easily exceeded through the contribution of one large event. Such atypical events have included the Long Island City event in 2006, which the Audit Report discounts as an indicator of a reliability trend. The Audit Report states (pp. 196, 197),

“There was certainly an unusual sequence of events in 2006, and all of the best planning may not have mitigated the damage and interruptions they caused. ... [T]he Long Island City outage in 2006, although it occurred during a heat wave, cannot be removed from the calculations, and as a consequence it has very deleterious impact on the network performance measures.”

The other atypical, events shown on the chart are:

- The June 23, 2007 transmission-substation lightning strike that interrupted service to 137,000 network customers for up to 48 minutes;
- The 2002 transmission-substation fire that interrupted service to about 63,000 customers for up to 7½ hours;
- The May 1996 transmission-transformer failure leading to load shedding that interrupted service to about 53,000 customers for up to 3 hours; and
- The December 1988 load-shedding mis-operation that interrupted service to about 63,000 customers for 43 minutes.

**Con Edison Twenty Three Year Non Network SAIFI Performance**



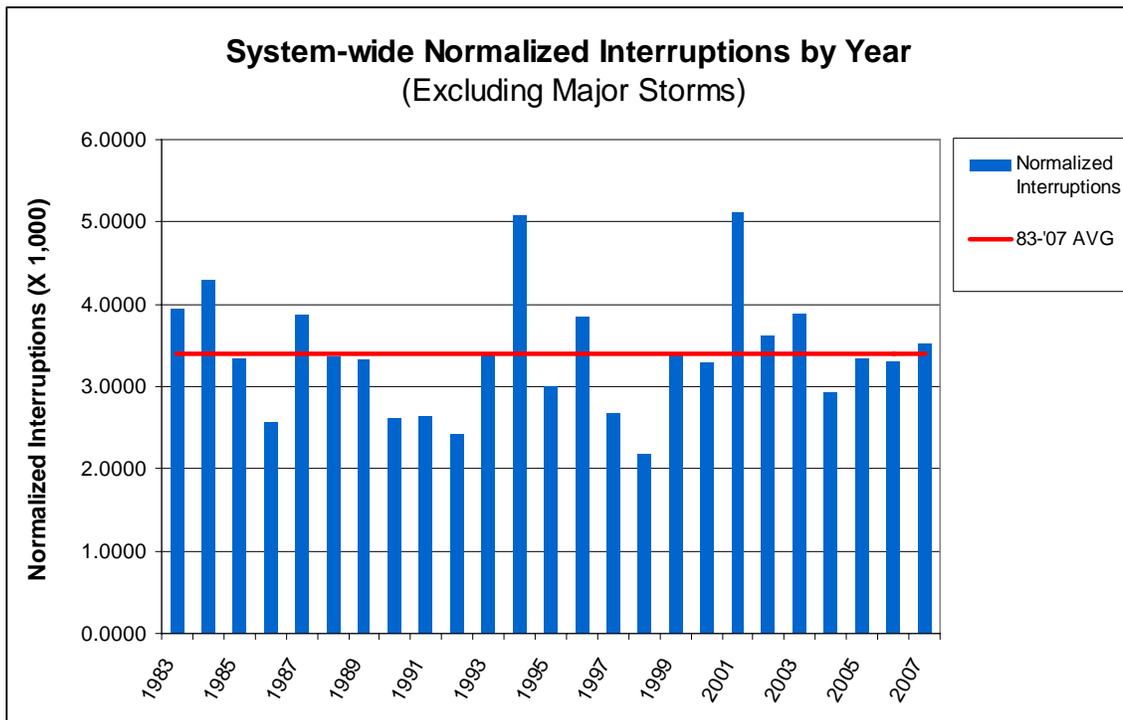
On the non-network system, weather-related outages can be excluded from SAIFI performance if 10% of the operating area’s customers are affected. However, the variability of less extreme weather conditions have an impact on reliability performance measures that must be taken into account when comparing performance from different years. Unusually bad weather can make performance look worse than average in some years while unusually good weather can make performance look better than average. When these positive and negative variations are taken into account, the Company’s non-network performance has been consistent over time. Con Edison’s average annual outage rate of about 400 customers per 1,000 is three times better than the national average of about 1,260 outages per 1,000 customers

For the Non-Network SAIFI chart (above), the higher outage counts beginning in the late 1990s are the result of moving from a manual data entry system of outage information to an automated system and improved customer counts in areas such as Westchester which began implementation of STAR in 1999. As Con Edison converted from manual to automated methods for recording, measuring, and reporting customer outages on the non-network system, more accurate customer outage counts increased the reported non-network SAIFI numbers – an effect that is visible on the chart starting in late 1990s – but do not reflect deteriorated reliability.

It is widely recognized throughout the utility industry that upgrades to outage management systems from legacy manual systems to graphical mapping based systems often have an adverse impact on SAIFI and CAIDI measures. These changes result from the manner in which

outages are measured and not from degradation in reliability.<sup>4</sup> The Audit Report does not consider the effect of these improvements on the Company's reported outage counts.<sup>5</sup>

The chart below, titled "System-wide Interruptions by Year," illustrates Con Edison's reliability performance without the upward customer-count bias introduced by improved outage measurement systems. The chart displays interruption events and is a better measure of underlying reliability when SAIFI is being impacted by improvements in outage measurement systems and processes as was the case on the radial system. If system-wide reliability were deteriorating over the years, the number of outage events by year would demonstrate an upward trend. However, as shown in the chart, the numbers of outage events have remained steady since 1983 with only random variability around the average.



<sup>4</sup> In Case 00-E-1273, Central Hudson Electric Rates, Order Staying Reliability Targets and Rate Adjustments, Sept. 29, 2003, the Commission recognized that more accurate outage reporting systems can increase SAIFI and CAIDI performance levels but not indicate a deterioration in reliability performance. The January 8, 2008 Recommended Decision in Con Edison's current electric rate case, also found that "the Company has demonstrated that an enhanced outage reporting system is likely to result in higher reporting of outage frequency and duration." Case 07-E-0523, Recommended Decision, Jan. 8, 2008, p. 189.

<sup>5</sup> The Audit Report (p. 111) recognized Con Edison's implementation of one important computer system, System Trouble Analysis and Response (STAR), installed in 1999 to improve the outage management process, but failed to consider its impact on reported customer outage counts. STAR, plus other improvements, such as automated analysis and updates of customer calls and improved mapping system connectivity, have produced more accurate, non-network, customer outage counts while reliability performance has remained steady.

One of the findings in the Audit Report (VII-F18, p. 197) correctly notes that the Company's monthly "Electric Distribution System Performance" report to internal stakeholders on reliability performance no longer includes 20-year reliability performance data in table form. The finding implies that Con Edison's reliability performance over time is no longer "straight forwardly portrayed" to the reader. Con Edison disagrees. The monthly report explicitly states exactly where the Company's performance stands relative to both the last five years and the last 20 years. As the Audit Report (p. 196) correctly states, the monthly report "compare[s] the monthly values to the value for the same month in the previous year as well as the 5-year monthly average, [and] the monthly value is ranked relative to the monthly value reported in each of the last 20 years." These statistics, as well as the overall report prepared each month, provides the reader with an accurate assessment of the Company's reliability performance.

In order to tie reliability and performance of the Company as a whole to individual performance, Con Edison operates under a Management Variable Pay Plan (MVP). Through the MVP, the Company links a manager's compensation with job responsibilities and individual performance. Key performance indicators in the MVP include SAIFI and CAIDI, safety, customer satisfaction surveys, budgets, other operational variables that are outage-related, and financial results. Through utilizing the MVP system, Con Edison encourages and expects managers and senior executives to have a personal interest in how the Company performs. Such a relationship shows that the Company, as a whole, is focused on performance and reliability.

In developing responses to the recommendations and findings contained in the Audit Report, the Company considered all the comments submitted in this proceeding by various parties, including those submitted by the City of New York.

Notwithstanding the above, the Audit Report notes that improvements to Con Edison's existing programs might positively affect future reliability. The Technical Design Criteria initiatives address the technical recommendations (Recommendations V-R11 through V-R20) included in the Audit Report's Reliability section. As noted previously, all technical recommendations made in the Audit Report's Reliability section are being submitted under separate filing in Case No. 06-E-0894. The table below describes the status of items in the separate proceeding that also apply to the Audit Report recommendations and which have not yet been completed. The status of items in Case No. 06-E-0894 is periodically updated, with the next update to DPS Staff due on March 1<sup>st</sup>, 2008.

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**Team 8 Technical Recommendation status:**

Chapter name	Chapter #	#	Recommendation	Previously submitted related reports.	Status Updates
Emergency Response Performance	V	19	Continue feeder testing with Hi Pot methods as currently practiced until such time as Con Edison completes its evaluation and refinement of the program for VLF testing and determines whether/how to implement same. Continuation of exploration of other non-destructive technologies suitable for the network environment should continue. (Refer to Finding V-F56.)	Related to PSC 37 – AC VLF hipot testing (Final copy is being finalized)	1/18/2008 The Company is currently analyzing historical high pot and feeder performance data to determine whether there is evidence that some changes in protocol could enhance the operating benefit. We continue to perform VLF high pot tests on 27kV feeders and are analyzing the early data so that we can refine and finalize the VLF test protocol. Con Edison also is exploring other non-destructive technologies through the USDOE-funded Cable Diagnostic Focused Initiative (CDFI), infrared imaging, and partial discharge.
Emergency Response Performance	V	17	Consider secondary feeds to high profile customers such as the MTA and Long Island Rail Road when reconfiguring or modifying future networks. (Refer to Finding V-F52.)	PSC 22 - effects of power disruptions on the major transit systems	1/18/2008 3G system of the future is evaluating a transferable feeder group distribution system that will provide two substation sources to specified isolated customers.
Emergency Response Performance	V	16	Place a higher priority on replacement of failed or nonfunctioning network systems components including transformers, network protectors, and RMS transmitters immediately prior to and during the summer months. (Refer to Finding V-F52.)		1/8/2008 The response to this recommendation is split into two parts A: "Transformers and NWP" -Distribution Engineering will be benchmarking banks off with regional Control Centers to establish clearer metric oversight, tracking and removal of Transformers and NWP. . B: "RMS Transmitters"- In the response we highlight our 2006 program to replace all UNR by utilizing the new 3rd generation transmitters.

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Chapter name	Chapter #	#	Recommendation	Previously submitted related reports.	Status Updates
Emergency Response Performance	V	20	Enhance the program for maintenance scheduling prior to and during the summer peak periods to complete all possible work during any scheduled feeder shutdown. (Refer to Finding V-F57-58.)		1/8/2008 The response to this recommendation includes the implementation of BOSS (Best Outage Scheduling System). The response highlights the current status of the application and a milestone date of 2009.
Emergency Response Performance	V	14	Complete the assessment of the Deep Thunder micro-weather modeling system and integrate it with either the STAR system or another emergency response program. (Refer to Finding V-F46.)	Related to PSC #6 STAR, response does not include information on Deep Thunder	1/18/2008 The response to this recommendation includes a summary of the Deep Thunder Company initiative as well as our plans for integration with other applications. The response includes a project milestone but does not address how the incorporation of Deep Thunder into STAR would validate it but not benefit the application.
Emergency Response Performance	V	18	Continue development of 3G research on future networks and integrate with long-term Strategic Plan as identified in Recommendation II-R3. (Refer to Finding V-F53.)	Related to PSC 59 – 3G	1/18/2008 The response to this recommendation highlights 3 new specifications to incorporate 3G design changes in our electric system. The response further discusses the demonstration and implementation of future and past projects. 3G concludes the response emphasizing our international benchmarking abilities with examples such as; the December 2007 Eight Utilities from Around the World Conference and the Lesson's Learned Conferences with Exelon's Com Edison from Chicago and Energy Australia from Sydney.

***Team 9 - Customer communication (VI R1&5)***

As a result of the outages in 2006, Con Edison implemented numerous policies and procedures to provide consistent and timely messages to the media during outage events. The Company also worked to establish effective communications with the numerous public entities that it deals with during outage events. As noted in the Audit Report, Con Edison significantly expanded its customer communication efforts following the Long Island City and Westchester outages, with particular emphasis on the message advising customers that they should contact the Company if they have lost power. This has resulted in a robust communication plan that incorporates Company publications, the corporate Web site, and a substantial public education campaign on radio and in newspapers.

Con Edison developed and mailed a new Power Problems brochure to 3.2 million customers in May 2007. This comprehensive brochure includes information about the importance of contacting the Company if power is lost, how to find information about dry ice and water distribution, and cooling or warming centers. It also explains how to obtain information on; outages and estimated times of restoration; the impact of low voltage; the steps people can take to protect appliances, computers, and other equipment; how telecommunications services, technologies, and equipment might function during power outages; how the Company restores and prioritizes service; and suggested contingency planning for consumers. This brochure, available in eight languages, was advertised in major daily newspapers and local and ethnic publications. A downloadable version of the brochure is posted to the Company Web site, a link to the brochure frequently appears on the Web site home page, and it is always on the corporate home page when a major storm is anticipated.

At the same time, Con Edison mailed a bi-monthly newsletter, *Customer News*, with bills to 3.2 million customers. The newsletter includes seasonal storm preparedness and safety precaution topics. Every *Customer News* promotes the importance of customers contacting the Company if they are experiencing power problems, and highlights recent new features such as the online outage-reporting and the new home-page outage information box that will be posted during a significant event. *Customer News* is produced in English and Spanish, and every issue is posted to the Company's Web site.

The Company regularly issues press releases as major storms are reported to approach the region. These releases include an appeal to contact the Company if customers lose power, as well as general safety tips and an overview of restoration priorities. The information is included in subsequent storm related press releases.

Con Edison devoted considerable resources to promoting the message in paid media as well. Last summer the Company ran a print and radio campaign explaining customer service improvements and highlighting enhancements to the Company's outage notification processes. A second campaign outlining the ease of reporting problems online and the availability of important storm information on the Web site ran last autumn and winter. These messages appeared in over 150 newspapers (dailies, ethnic papers, and neighborhood papers) and were broadcast on 18 radio stations (news, talk, music and sports formats).

Notwithstanding the considerable improvements Con Edison has made to its outage reporting process and in communications with customers who have reported outages, and despite extensive advertising in local media, subway and bus posters, and on Company vehicles and customer inserts, the Audit Report found that the message that a customer needs to report their outage is still not achieving the desired success. (VI-F4) Con Edison concurs that it needs to further improve communications with customers as to the need for customers to report individual outages and make the need to report outages more prominent in its advertising and customer outreach efforts through enhancement to the Web site and additions to bill inserts. (VI-R1)

Con Edison is now working to identify additional outlets where it can promote the message asking customers to call if they lose power. These outlets may include electronic media as well as enlisting external organizations to help deliver the message.

The Audit Report also found that Con Edison has enhanced its Web site and the provision of outage information (VI-F8). Because customers have increasingly chosen to contact Con Edison via the Internet, the Company has improved its Web site to enable customers to report an electric service problem or to check on the status of a previously reported service outage. Customers are able to perform these activities by simply providing either their account number or by entering the phone number linked to their account and verifying the address of the location of the outage. Con Edison has implemented additional enhancements to its Web site including:

- Enabling customers to use the Internet to notify Con Edison of electric service problems, including partial lights, dim lights, flickering lights, or no lights;
- Providing information such as news releases, Company statements, location of outreach van and dry ice, and claims information;
- Including a Storm Central section that provides storm preparation information;
- Posting information on handling dry ice; and
- Allowing customers who have reported electric service problems via telephone or the Internet to obtain an ETR via the Internet.

Although Con Edison has recently expanded the use of its Web site to provide customers with and receive useful outage information, the Audit Report found that Con Edison should continue to expand the information and communication provided through its Web site to include pictures and videos of the outage situation and efforts to restore service. The report also cites examples of other utility outage web sites with varying degrees of content and quality that the Company should review for best practices (VI-F8).

Generally, Con Edison agrees with the Audit Report's findings, which recognize that the Company has made great strides to enhance the outage information available to Company employees and directly to customers so it can more accurately communicate the status of an outage and estimated time of restoration (ETR). Furthermore, the Company has continued to improve information and communication provided through its Web site and to increase communication with customers on the need to report outages. Most recently, Con Edison has developed and implemented template web pages to display photos of storm and other outage

damage and the Company's restoration efforts. The Company has internal photographic resources and contracted photographers such that photos will be available quickly. (VI-R5)

Despite these improvements, Con Edison continues to research best practices, new and improved technologies, and policy revisions that will help to identify the most effective web-based communications with employees, customers, the public, and officials. In particular, the Web continues to advance as an important communications and transactional tool. As Web technology advances, the Company will take advantage of new opportunities to facilitate and improve Web-based customer communications. Con Edison will also evaluate the communications content and functionality provided by the Company's Web site against the content and functionality provided by other utility Web sites and against recognized web industry best practices. (VI-R5) Based on this benchmarking/review, the Company will implement enhancements to Web site content, navigation, and functionality.

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**Team 9 Implementation Plan:**

<b>Task</b>	<b>Start Date</b>	<b>End Date</b>	<b>Report Rec#</b>	<b>Task Owner(s)</b>	<b>Deliverable(s)</b>
<b>Team 9 - Review and improve customer outage reporting and web site</b>	<b>1/1/2008</b>	<b>1/1/2009</b>	<b>VI-R1 &amp; R5</b>	<b>Corp Communication</b>	<b>Analysis Document Planning documents Procedures and practices (written)</b>
Expand the use of web to communicate with customers	1/1/2008	6/30/2008	VI-R5	Corp Communication	Analysis Document Planning documents Procedures and practices (written)
Enhance customer outage reporting capabilities	6/1/2008	1/1/2009	VI-R1	Corp Communication	Planning documents Procedures and practices (written)

**Risk/Cost/Benefit Analysis:**

Benefits include better Company information about the nature and extent of customer outages, and enhanced customer and public understanding about outages and expected Company response and restoration time frames.

***Team 10 - Call center capability testing (VI R2)***

A significant challenge for utilities during an outage event is to allow customers to report outages and obtain outage related information timely and accurately. Over the years, Con Edison has continued to improve its customer operations via strategic planning and lessons learned derived from service emergencies and outages.

As a result of the 2006 Long Island City (LIC) event and three storm-caused electric service outages in Westchester, Con Edison has implemented a number of Call Center enhancements that have strengthened the Company's ability to better serve its customers during emergencies and outages. While many of the Call Center enhancements are put to use on a daily basis, several are triggered only during sizable outage events, which tend to occur infrequently.

The Audit Report recommends that Con Edison should test the new enhancements and capabilities of the Call Center under a major outage scenario. Con Edison recognizes the benefits of improving its emergency preparedness and welcomes the recommendation offered in the Audit Report. To that effort, Con Edison's Customer Operations organization has assembled a team – Call Center Capability Testing team – consisting of personnel from Customer Operations, Emergency Management, Public Affairs, and Information Resources to develop a comprehensive drill exercise that will test select Call Center enhancements that are triggered during large scale outage events. (VI-R2)

Audit Report findings VI-F1, VI-F2, VI-F3, VI-F5, and VI-F7 speak directly to the enhancements Con Edison has implemented since the 2006 events. It is important to note that findings VI-F1, VI-F2, and VI-F7 address Call Center enhancements, which are utilized on a frequent basis in customer operations – in most cases, on a daily basis. Equally important, the five findings (F1, F2, F3, F5, and F7) reveal that positive initiatives and improvements have occurred in the Call Center environment since the events of 2006. These enhancements are identified in the subsequent section of this document.

In addition to the steps described above, below are some key initiatives undertaken and improvements made by Con Edison that compliment its internal work plan. Many of these initiatives and improvements derive from recommendations made following the LIC and Westchester events.

- The Company continues to improve its High Volume Call Answering (HVCA) solution with Twenty First Century Communications (TFCC).
- The HVCA electric emergency application is currently being improved so that county/borough specific outage information will also be available on the TFCC platform.
- Call routing transfer services were incorporated in the HVCA call flow to route to a Customer Service Representative, the customer who is not able to report their electric outage via the TFCC automated emergency application are routed to a Customer Service Representative.
- Modifications to the call transfer process are being made to extend the call transfer capability to remote Con Edison and O&R customer service locations.

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- Due to the expected infrequent usage of the HVCA services, the team suggested that periodic test actions be conducted to facilitate system operation and functionality. One of several test actions will be to perform a quarterly drill where live 'blue sky' electric emergency calls will be redirected to the TFCC electric emergency IVR application, so that customers may report their outages via the Call Center capabilities the Company will depend on during large scale outage events. Additionally, such exercises will enable Company employees to become more familiar with the tools utilized during emergencies. The first 'blue sky' quarterly test is scheduled for mid March 2008.
- As a means to measure how many data transactions can be carried over the dedicated data connection between Con Edison and TFCC, transactional volume testing was performed at a sustained rate of one thousand transactions per minute. This test simulated the reporting of numerous simultaneous outage transactions on Con Edison's test customer information system environment.
- The Call Center has implemented a variety of emergency call routing schemes/plans which enable maximum utilization of trunk resources. Additionally, the routing plans allow for the automatic transfer of customer calls to the TFCC HVCA emergency call flow application when Call Center inbound resources approach maximum utilization.

The Call Center Capability Testing team will design the drill, review lessons learned, and make adjustments to the systems as necessary. Participants in the drill will include Customer Assistance, Strategic Applications, Public Affairs and Electric Operations, Information Resources, Emergency Management, and external parties.

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**Team 10 Implementation Plan:**

<b>Task</b>	<b>Start Date</b>	<b>End Date</b>	<b>Report Rec#</b>	<b>Task Owner(s)</b>	<b>Deliverable(s)</b>
<b>Team 10 - Test Call Center capacity and improve ability to implement lessons learned</b>	<b>1/1/2008</b>	<b>12/31/2008</b>	<b>VI-R2</b>	<b>Customer Ops</b>	<b>Analysis Document Planning documents Procedures and practices (written)</b>
Design Call Center capability test scenario	1/1/2008	4/1/2008	VI-R2	Customer Ops	Planning documents
Perform Call Center capability drill exercise	4/1/2008	5/1/2008	VI-R2	Customer Ops	None
Review drill performance / identify lessons learned	5/1/2008	6/1/2008	VI-R2	Customer Ops	Analysis Document
Develop post drill exercise action items based on lessons learned	5/1/2008	6/1/2008	VI-R2	Customer Ops	Analysis Document
Standardize procedures for periodic drill exercises	5/1/2008	6/1/2008	VI-R2	Customer Ops	Procedures and practices (written)
Continue to seek and implement Call Center enhancements related to emergency preparedness	1/1/2008	12/31/2008	VI-R2	Customer Ops	None

**Team 10 Risk/Cost/Benefit Analysis:**

Since the events of 2006, the Customer Assistance department has continued to challenge its operations to mitigate the risks associated with large scale outage events. Internal audits coupled with the Audit Report findings and recommendations enable the Call Center to identify its strengths and deficiencies in the area of emergency preparedness. To successfully manage large scale outage events, the Call Center must continue to exercise its internal work plan, develop periodic drills that test past and ongoing Call Center enhancements, and adequately plan and implement its emergency preparedness strategy.

***Team 11 - Estimated Time of Restoration (ETR) methodology (VI R3-4)***

The global ETR is the estimate of when all customers impacted by an event will be restored to service. In order to provide the public with a timely and accurate global ETR, damage assessment is needed. The Audit Report acknowledges that Con Edison has already taken measures to speed up its damage assessment process. Additional enhancements to this process are described in the Trouble Assessment Process section (Team 6) of this report.

Currently, the CERP stipulates that a global ETR will be developed and communicated within 12 hours after the end of a storm. The Audit Report indicated, however, that with regard to larger storms affecting more than 40,000 customers (level 3A), providing a global ETR within the 12-hour timeframe may not be achievable.

The Audit Report suggests a matrix approach, where the period to generate a global ETR is dependent upon the severity of the event. Accordingly, Con Edison is developing a matrix to determine reasonable time frames to provide Global ETR information based on the magnitude of the storm event. The time frames to establish a Global ETR are driven by such factors as the number of customer outages, the number of trouble jobs reported in STAR, and the time needed to acquire and analyze damage assessment data. The global ETR matrix covering weather events impacting the overhead distribution system will be completed by June 1, 2008. (VI-R4)

In an effort to utilize historical information and assist in providing timely and accurate global ETR information Con Edison has undertaken key initiatives listed below. (VI-R3)

Con Edison has developed a predictive damage model. The basis for the model includes historical storm statistics, historical weather data, and the development of resource estimates against storm job types. Statistical analyses were performed to develop relationships between these factors in order to drive a pre-storm prediction. Currently, Con Edison is piloting this predictive model in Bronx Westchester. The Company will validate and enhance statistical relationships as it applies the model to future storm events.

Con Edison has also initiated a Research and Development project to examine the feasibility of applying cutting-edge technology to forecast weather to a local level and enable near real-time impact of weather conditions on the overhead electrical system. It is anticipated that the forecast and real-time weather data will allow Con Edison to more accurately predict and respond to damage to its electric distribution system, allowing Con Edison to better mobilize resources when responding to storms. The Company anticipates using and evaluating the model later this year.

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**Team 11 Implementation Plan:**

<b>Task</b>	<b>Start Date</b>	<b>End Date</b>	<b>Report Rec#</b>	<b>Task Owner(s)</b>	<b>Deliverable(s)</b>
<b>Team 11 - Design and implement a process to establish Global Estimated Time of Restoration (ETRs)</b>	<b>1/1/2008</b>	<b>12/1/2008</b>	<b>IV-R3 &amp; R4</b>	<b>Regional EM Customer Ops</b>	<b>Interviews/meetings/survey Planning documents Procedures and practices (written)</b>
Continue the validation of predictive modeling tool in Bronx/Westchester	1/1/2008	7/1/2008	IV-R3	Regional EM	Planning documents
Develop a storm matrix considering the storm severity	1/1/2008	6/1/2008	IV-R4	Regional EM	Planning documents
Review of existing restoration targets included within CERP that take into consideration weather, number of customers affected and storm job counts	1/1/2008	6/1/2008	IV-R4	Regional EM	Planning documents
Reinforce the process for estimating Global ETR for overhead distribution system power outages	1/1/2008	6/1/2008	IV-R4	Regional EM	Procedures and practices (written)
Conducting focus groups to understand Customer expectations	6/1/2008	12/1/2008	IV-R4	Corp Communications	Interviews/meetings/survey

**Team 11 - Risk/Cost/Benefit Analysis:**

Benefits associated with implementing these recommendations include improved (timely and accurate) issuance of Global ETRs. These initiatives are closely linked to those being addressed by Team #6 - Trouble Assessment Process because the capability of providing timely and accurate information is dependent upon the damage assessment process. In addition, the predictive modeling and weather forecasting initiatives will further enhance the Global ETR process.

**Team 12 - Vegetation management program (VII R1-2)**

The Con Edison Vegetation Management Program, also known as the tree trimming or line clearance program, was significantly revised at the conclusion of 2006 for the Westchester County service area. While reaffirming its commitment to the three year cycle, Con Edison increased horizontal and vertical clearances. The Company also began an aggressive brush removal operation with the application of growth retardant stump treatment where allowed by municipal regulation. Con Edison developed an aggressive outreach and education campaign to communicate the need to maintain the distribution system and to promote long term vegetation planning and maintenance along utility easements. Finally, Con Edison invested in the professional development of its staff, encouraged and supported three of its field inspectors to acquire their International Society of Arboriculture (ISA) Certified Arborist designation, and hired a Manager in the Bronx/Westchester Electric Operations Region to manage and direct the tree trimming program, elevating the position to a Band 3 Section Manager level.

The Audit Report acknowledged that Con Edison has taken a number of positive steps in regards to the tree trimming program. These steps include: increased clearances (expanded line clearance standards); conducting inspections prior to trimming; increased communication with community leaders; new written material on tree maintenance; a commitment to forestry professionals; and a process to proactively contact landowners prior to trimming. The Audit Report also recognizes the inherent challenges in obtaining full support for a vegetation management program from 43 different municipalities in Westchester County, individual landowners, and associations. In addition, the Audit Report recognizes that the Company has increased its tree trimming expenditures in the Bronx/Westchester area by approximately 80% in 2006. The expenditures were further increased in 2007.

Con Edison has entered into a contract with BioCompliance to conduct an urban forest study of Westchester County. The study proposes to:

- Characterize the urban forest using existing data sets and a limited field assessment. Conditions will be inferred through the use of standard mortality profiles;
- Characterize the urban forest through more in depth study including direct assessment and analysis of data acquired through structured field sampling methods;
- Complete a comparative analysis of the urban forest in Westchester County and other suitable locales; and
- The study is in progress with an anticipated completion date during the second quarter of 2008. (VII – R1)

Con Edison has evaluated the effectiveness of the current tree trimming and clearing program through:

- An evaluation of the 1999 Environmental Consultants Incorporated Report of Con Edison's tree trimming operations to determine whether additional recommendations proposed would enhance the current program effectiveness;
- A review of and modifications to, the line clearance specification and bid award for years 2008 and 2009 of the first cycle;
- A survey of regional utilities to evaluate their program's components relative to Con Edison's and generally accepted line clearance practices;

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- A literature search of research and trade articles published relating to well designed line clearance programs and the use of scientific methodologies for tree trimming;
- An evaluation of reliability metrics and decision analysis tools available for line clearance program scheduling and monitoring; and
- Proposing a Danger Tree Program to identify and eliminate off right-of-way tree hazards in between cycles.

Con Edison has also concluded that a wholesale review of the currently designed program and its effectiveness should be conducted after the completion of the first cycle. The first cycle concludes at the end of 2009. Therefore, in 2010, an expert in line clearance programs will be retained to conduct the assessment. (VII – R2)

Con Edison recognizes that an important element of an effective vegetation management program is the elimination of off right-of-way hazard trees and the removal of other dead vegetation. Using the results of the urban forest study, the Company is establishing a Danger Tree Elimination Program.

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**Team 12 Implementation Plan:**

<b>Task</b>	<b>Start Date</b>	<b>End Date</b>	<b>Report Rec#</b>	<b>Task Owner(s)</b>	<b>Deliverable(s)</b>
<b>Team 12 - Continue to expand vegetation management program to gain better understanding of Urban Forest</b>	<b>1/1/2008</b>	<b>12/31/2011</b>	<b>VII-R1 &amp; R2</b>	<b>BW Const</b>	<b>Analysis Document Procedures and practices (written)</b>
Complete Urban Forest Study	1/1/2008	6/30/2008	VII-R1	BW Const	Analysis Document
Evaluate the effectiveness of current tree trimming and clearing program relative to other reliability measures.	6/1/2009	12/31/2011	VII-R2	BW Const	Analysis Document Procedures and practices (written)
Develop a danger tree program	1/1/2008	12/31/2008	VII-R2	BW Const	Procedures and practices (written)

**Team 12 - Risk/Cost/Benefit Analysis:**

The benefits of the Urban Forest Study include a better understanding of the vegetation landscape in Con Edison's territory in order to better target the danger tree program spending. Risks associated with not performing the danger tree removal include extensive damage during future weather events (such as trees toppling over from outside the right of way) and causing significant damage and extended outages. Effectiveness review of the line clearance program after the first cycle will provide the insights on the potential improvements to the program going forward.

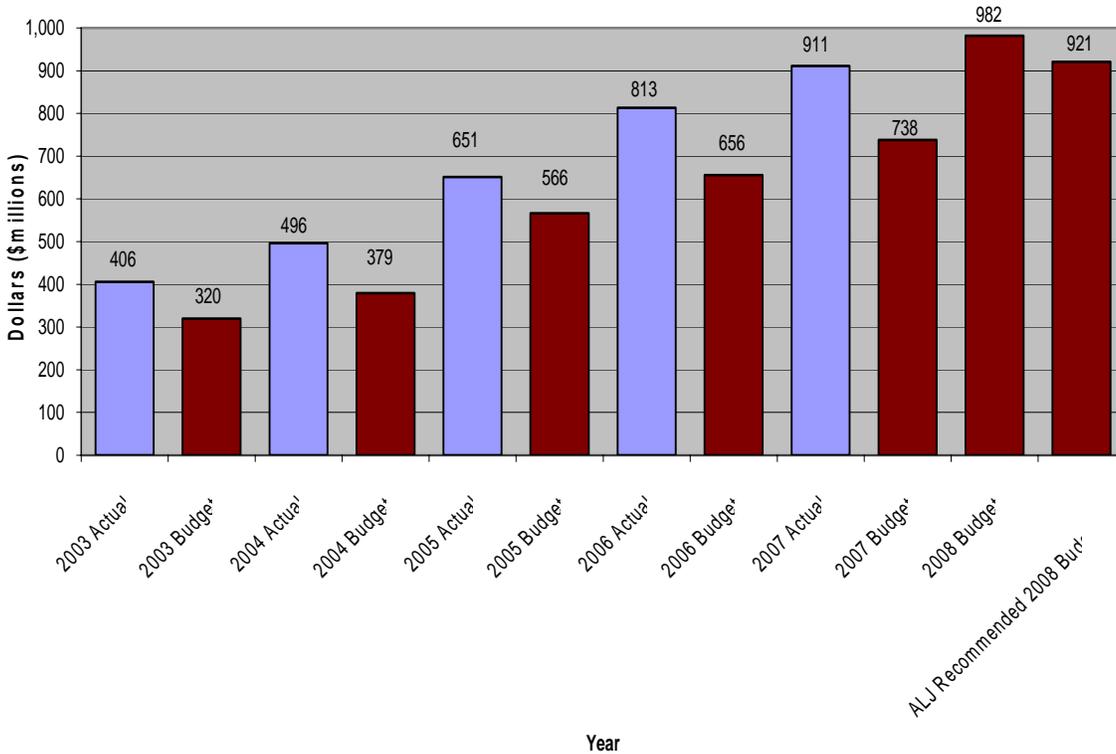
**Team 13 - Financial and operational metrics (VII R3-4)**

**Financial Metrics**

Con Edison’s historical spending for years 2003 to 2007 includes \$3.3 billion in capital investments for the electric distribution infrastructure. The Company steadily increased its budget plan and actual infrastructure investments in each of these years as shown in Exhibit 1. (VII-R3)

**Exhibit 1**

2003 - 2008 Electric Operations Capital Trends



Con Edison’s capital investments to enhance reliability are included in projects and programs. For example, between 2003 and 2004, substantial replacement of cable and equipment installations or upgrades was accounted for within other programs, such as emergency response, load relief, new business, public improvements, and maintenance work. Each year, in preparation for the summer months, the Company performs a series of maintenance and reinforcements activities that improve reliability throughout the distribution system.

These activities include:

- **Load Relief:** Cable and equipment replacement to further enhance reliability is added to work for the planned reinforcement of the primary and secondary systems.

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- **Reliability Work:** Engineering reviews the reliability of distribution systems and issues layouts for the construction of reliability improvements prior to the summer months. These activities include replacing Paper Insulated Lead Covered Cable (PILC) and associated stop joints with more reliable equipment, and installing sectionalizing switches on feeders to facilitate and expedite restoration during outages.

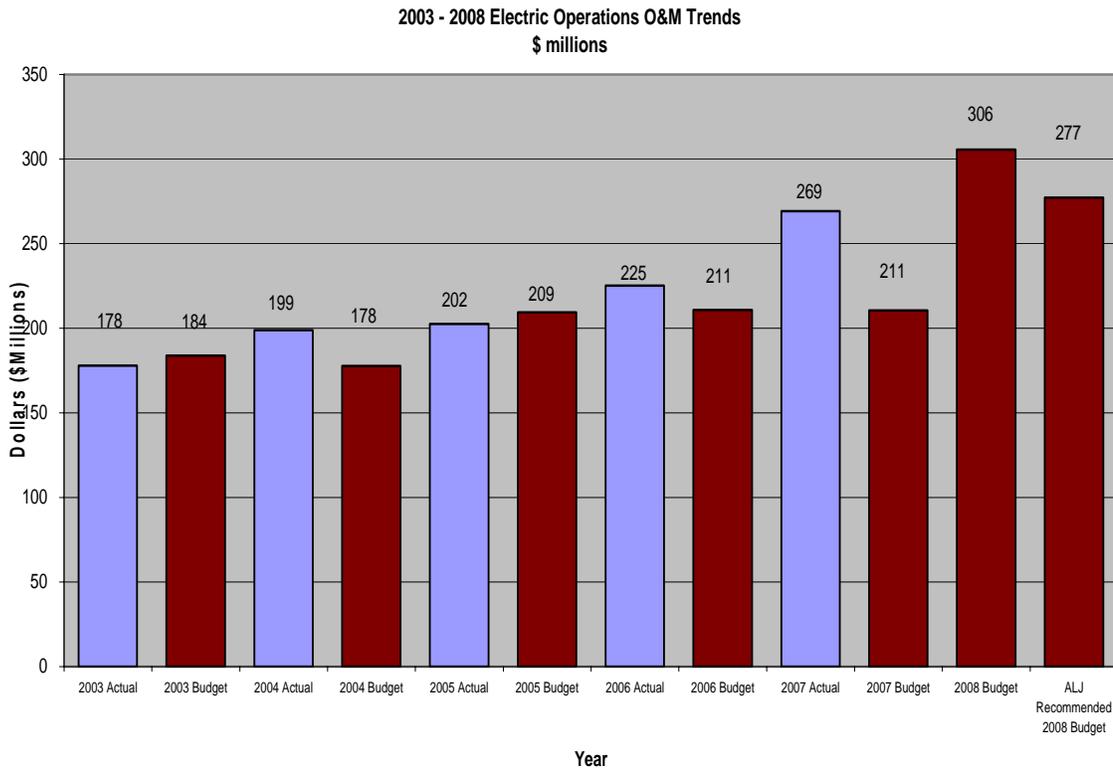
Capital investments to enhance reliability also include other work categories such as:

- **New Business** – In analyzing the distribution system to support new customer loads, the existing system is often at or beyond its capability. As a result, many of these residential and commercial projects require extensive infrastructure such as: secondary mains reinforcement, primary feeder extensions and transformer vault installations to adequately and reliably support these new/additional loads. The expenses for additional reinforcement and reliability are charged to our new business projects and therefore, results in higher costs for these projects.
- **Public Improvement** – Each year Con Edison invests significantly in public improvement projects, which require cable, manhole, transformer, and pole relocations. Projects involve system review and the resulting asset replacement contributes to overall reliability improvements.
- **Emergency Response** – Much of the PILC replacement program was charged under emergency response category. Emergency responders inspect equipment to determine if there is a need for additional PILC replacements or an opportunity to remove PILC and install new cable sections, thereby enhancing system reliability.

After 2004, Con Edison changed its record keeping to better track expenditures and to satisfy internal and external reporting requirements. Several of the reliability expenditures noted above were affected by that change.

Over the same five-year period 2003 to 2007, Con Edison has spent \$1.1 billion in electric distribution operations and maintenance (O&M), as shown in Exhibit 2. This excludes expenditures associated with the July 2006 Long Island City (LIC) Network Outage and three major overhead storms in Westchester County. (VII-R3)

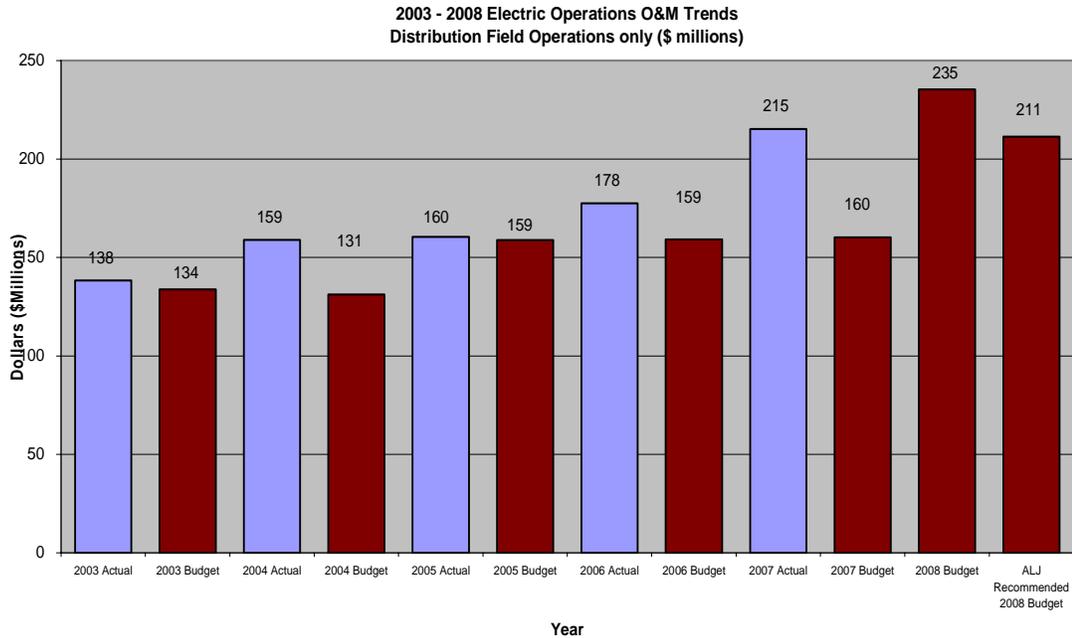
**Exhibit 2**



Approximately 90% of the spending is directly attributed to field maintenance activities. The balance goes to support activities such as engineering and administrative oversight. O&M expenditures in most years exceeded the budget amounts. The budget variance in some years (i.e., 2003 and 2005) was attributed to not spending storm contingency funding (which is included in every electric distribution O&M budget) as well as cost savings in engineering and administrative services.

The O&M expenditures attributed to direct maintenance activities in the field met or exceeded the budget targets in each of those years as illustrated in Exhibit 3.

**Exhibit 3**



The 2005 electric rate plan, currently in effect, provided the Company with significant increases for its infrastructure capital and O&M expenditures, allowing the Company the opportunity to further develop its focus on reliability. These increased expenditures reflect Con Edison’s commitment to meet the continued growing customer demand and enhance reliability and safety programs. The Company is pursuing the additional reliability improvement investments in the pending electric rate request.

**Current Electric Operational Metrics**

Con Edison has several key performance indicators that measure its performance relative to reliability, emergency response, and customer satisfaction. (VII-R4) The Performance Measures section of this report addresses future potential emergency management performance measures.

SAIFI/CAIDI Performance Indicators - The continuity of electric service is a key statistical measure of service reliability to our customers. This commonly used measure within the utility industry is known as SAIFI – System Average Interruption Frequency Index. Another measure of reliability is CAIDI – Customer Average Interruption Duration Index. Despite its ongoing and extensive participation in industry benchmarking activities, Con Edison agrees with the general findings of the Audit Report that implementation of best practices learned through these benchmarking efforts can be improved. In addition, Con Edison recognizes that there is a lack of focus among the multiple benchmarking programs, and no clear emergency response objectives are associated with existing efforts. With this in mind, Con Edison utilized the Audit Report

findings and recommendations as part of a comprehensive evaluation of the benchmarking and best practices processes utilized internally and throughout the utility industry. The Audit Report included six findings (VIII-F1 through VIII-F6) in the areas of benchmarking, best practices, strategic planning, research and development, and regulatory oversight.

At Con Edison, customer outage frequency and duration are measured for system wide reliability, Network system reliability and Non-network system reliability. These interruption measures are tracked for each outage event, compiled monthly for all regions and published monthly for the benefit of stakeholders. Annually, a formal report is filed with the DPS Staff to inform them of the Company's customer outage performance for the year. The Company is subject to monetary penalties in the event of not achieving targeted performance in any of the four categories.

Removal of Thermally Sensitive Stop Joints - during heat wave periods, 2Way 1Way stop joints are known to have above average failure rates. As a measure of reliability, removals of thermally sensitive stop joints are tracked to facilitate their removal from the system as expeditiously as possible. Current targets foresee 2Way 1Way stop joints off the system by year end 2008.

Reduction of Paper Cable - similar to the 2Way 1Way stop joint measure, paper cable (PILC) removed from the system is also a key reliability measure. Current targets require all paper cable (PILC) to be removed from the system by year end 2020.

Customer Satisfaction - during each rate year, the Company retains Communication Research Associates (CRA) to conduct two customer satisfaction surveys of callers, walk-in center visitors, and callers who call the phone center to report electric and gas emergencies. The scores for the two surveys for each application are averaged to determine the score for the year. The survey includes customers' ratings of how the Company handled:

- an electric emergency from the point of contact in the Call Center to the field repair;
- a gas emergency from the point of contact in the Call Center to the field repair;
- a call related to billing, credit or establishing service; and
- their inquiry when they visited one of our walk-in or Customer Service Centers.

Electric Shocks to the Public - A shock event is a public complaint of an electric shock to a person or animal from urban stray voltage. The Company will be considered responsible for an electric shock event having substantiated voltage and caused by failed Company equipment/cable. This indicator will measure the number of Electric Shock Incidents in Electric Operations as compared to the prior year.

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**Team 13 Implementation Plan:**

<b>Task</b>	<b>Start Date</b>	<b>End Date</b>	<b>Report Rec#</b>	<b>Task Owner</b>	<b>Deliverable(s)</b>
Develop Emergency Management performance metrics in support of the Emergency Management Principles	1/15/2008	1/1/2009	VII-R3 & R4	Corporate EM Regional EM	Analysis Document Performance measures, metrics analysis and reports Procedures and practices (written)
Develop Electric Operations Emergency Management performance indicator	5/1/2008	1/1/2009	VII-R3 & R4	Human Resources Corporate EM Regional EM	Performance measures, metrics analysis and reports Procedures and practices (written)

***Team 14 - Benchmarking & Best Practices program improvements (VIII R1-2)***

Con Edison participates extensively in industry benchmarking of electric systems. Virtually every organization within the Company participates in some way in inter-utility and industry groups. Despite its ongoing and extensive participation in industry benchmarking activities, Con Edison agrees with the general findings of the Audit Report that implementation of best practices learned through these benchmarking efforts can be improved. In addition, Con Edison recognizes that there is a lack of focus among the multiple benchmarking programs, and no clear emergency response objectives are associated with existing efforts. With this in mind, Con Edison utilized the Audit Report findings and recommendations as part of a comprehensive evaluation of the benchmarking and best practices processes utilized internally and throughout the utility industry. The Audit Report included six findings (VIII-F1 – VIII-F6) in the areas of benchmarking, best practices, strategic planning, research and development, and regulatory oversight.

Con Edison reviewed existing benchmarking programs throughout the Company to evaluate the status quo and found that every organization participates in some way in an inter-utility and industry groups. The Audit Report does not adequately recognize the breadth of inter-utility activities Con Edison departments execute each year. Prior to the release of the Audit Report, Con Edison Distribution Engineering began participating in the PSE&G peer group, and also participated in an extensive statistical benchmarking effort with Polaris in spring of 2007. The Audit Report also incorrectly noted that Con Edison has yet to participate in Deep Thunder, which it considers a best practice. In fact, Con Edison is already involved in a trial implementation of the Deep Thunder system.

Con Edison's senior management has strongly supported benchmarking on a broad basis. However, the Company agrees that there are opportunities to better embed best practices within organizations. Senior management has also strongly supported research and development and the commercialization of advanced technology products. Through its comprehensive evaluation of the existing benchmarking programs and the evaluation of the Audit Report's findings and recommendations, Con Edison has identified additional opportunities to implement a benchmarking and best practices program that will effectively address Recommendations VIII-R1 and VIII-R2.

Con Edison will incorporate a centralized benchmarking effort as apart of its Corporate Emergency Management organization. As a result, Emergency Management will be responsible for coordinating with internal departments, identifying best practices, implementing lessons learned, and aligning Emergency Management benchmarking efforts with corporate strategy. This will facilitate a more formal information capture and dissemination process for communicating information as well as utilizing it to identify and implement best practices. The formalization of Con Edison's benchmarking and best practices program will be aligned with the Corporate Emergency Management principles established in the Company's Emergency Management Corporate Strategy. (VIII-R1)

Implementation of the emergency management benchmarking and best practices program will:

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- Define emergency management benchmarking targets for the electric distribution organization;
- Establish a formal process for gathering, analyzing, and communicating benchmarking data;
- Identify best practices in areas with performance gaps; and
- Establish accountability for implementing best practices.

Con Edison will also work with DPS Staff to implement a collaborative program including all electric, gas and telecommunication utilities within the Commission's jurisdiction to develop best practice emergency preparedness and major outage restoration programs. (VIII-R2)

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**Team 14 Implementation Plan:**

<b>Task</b>	<b>Start Date</b>	<b>End Date</b>	<b>Report Rec#</b>	<b>Task Owner(s)</b>	<b>Deliverable(s)</b>
<b>Team 14 - Review and consolidate Emergency Management (EM) benchmarking and best practice program</b>	<b>3/1/2008</b>	<b>1/31/2009</b>	<b>VIII-R1 &amp; R2</b>	<b>EM</b>	<b>Analysis Document Procedures and practices (written)</b>
Define the scope of the Emergency Management benchmarking and best practices program	3/1/2008	6/30/2008	VIII-R1	EM	Analysis Document Procedures and practices (written)
Determine optimal Emergency Management benchmarking structure, establish group, develop detailed position guides and job postings for new positions.	6/30/2008	11/30/2008	VIII-R1	EM	Analysis Document
Begin operations of Emergency Management benchmarking and best practices program	1/1/2009	1/31/2009	VIII-R1	EM	Procedures and practices (written)
Initiate Emergency Management collaborative program with Department of Public Service (DPS), New York jurisdictional electric, gas and telecommunication utilities	11/30/2008	12/31/2008	VIII-R2	EM	None

**Risk/Cost/Benefit Analysis:** Benchmarking benefits are not directly quantifiable. Dedicating employees to facilitate benchmarking on a full-time basis will provide the necessary resources to obtain a better understanding of design and operational philosophies employed at other utilities. Benchmarking with other utilities will allow Con Edison to implement the best practices throughout the Company, resulting in potential cost savings and overall improvements in business unit operations where best practices are identified and implemented, in emergency management activities, and in all aspects of customer service.

## IV Attachments

### A. Recent Emergency Management Enhancements

**Optimal use of Company crews:** When there is a reasonable probability that a major storm could hit Con Edison's service territory, including Orange & Rockland Utilities, Inc., or when OEM issues a Weather Warning, Electric Operations Emergency Management initiates an inter-regional conference call to discuss each region's preparations. The purpose of the call is to discuss each region's weather data, anticipated system impacts (if any), anticipated event classification, available resources and initial resource allocations.

**Management of Mutual Assistance crews:** A mutual aid organization has been formally developed and staffed with personnel with previous overhead background. This organization is responsible for the utilization of outside Mutual Assistance.

**Pre-emptive declaration for a Full Scale underground event:** In an effort to rapidly organize into an Incident Command System to strategically utilize the various resources of the Company, a Full Scale Incident can be preemptively declared when specific weather criteria are present.

**Storm Process Overview training:** Storm response employees assigned to participate in the emergency response are being offered an orientation via e-learning to help them better understand the process of emergency response efforts and their role on the storm response team.

**Utilization of Underground Mutual Assistance crews:** A formalized process for the potential use of underground Mutual Assistance and contractor crews during Full Scale, and possibly lower level, events has been implemented.

**Optimization of trained resources:** The roles of the Damage Assessor and Site Safety Representative have been clearly delineated to leverage their training. Damage Assessors will inspect locations and portions of feeders, assess associated damage conditions, and then report these conditions. Site Safety Representatives are dispatched directly to reported wire down locations to restrict access to the area and remain on site until repair crews arrive.

**New Customer Count Team and Customer Assessment Team initiatives:** To improve our response to secondary system problems, Customer Count Teams (CCT) composed of regional engineering personnel will utilize the new Network Trouble Indicator (NTI) algorithm designed to quickly identify potential underground outages, to investigate suspect feeders and help determine customer impacts. The CCT will interface with other storm management organizations to monitor job status and effect timely repairs.

**Improved definition of Winter Storm response:** In order to improve our response to underground events that typically result from salt water runoff after a snowstorm, the Comprehensive Emergency Response Program (CERP) plan now includes event classification matrices and triggers for mobilization of resources (including CCT and CAT) to respond to such events in a more timely manner.

**Enhanced Outreach to Public Officials:** We have formalized appropriate public official teleconference briefings during storms and other service outage related events.

**Media:** Media Relations will issue regularly scheduled press releases. Press releases will include information about the cause of the outage, the neighborhoods affected, estimated number of customers interrupted, overall estimated restoration time, claims information (when appropriate), and dry ice distribution sites.

**Customer Service:** Customers calling Con Edison's toll-free number receive information about the overall service restoration time, job specific restoration times, dry ice distribution, claims eligibility, safety tips and customer outreach advocates when dispatched to service outage locations.

**LSE Customers, Hospitals and Nursing Homes:** The Communications Management Group alerts Life Sustaining Equipment (LSE) and medical hardship customers, hospitals and nursing homes prior to a serious or greater event. An annual outreach program designed to raise the awareness of customers and other affected individuals about the LSE program is conducted.

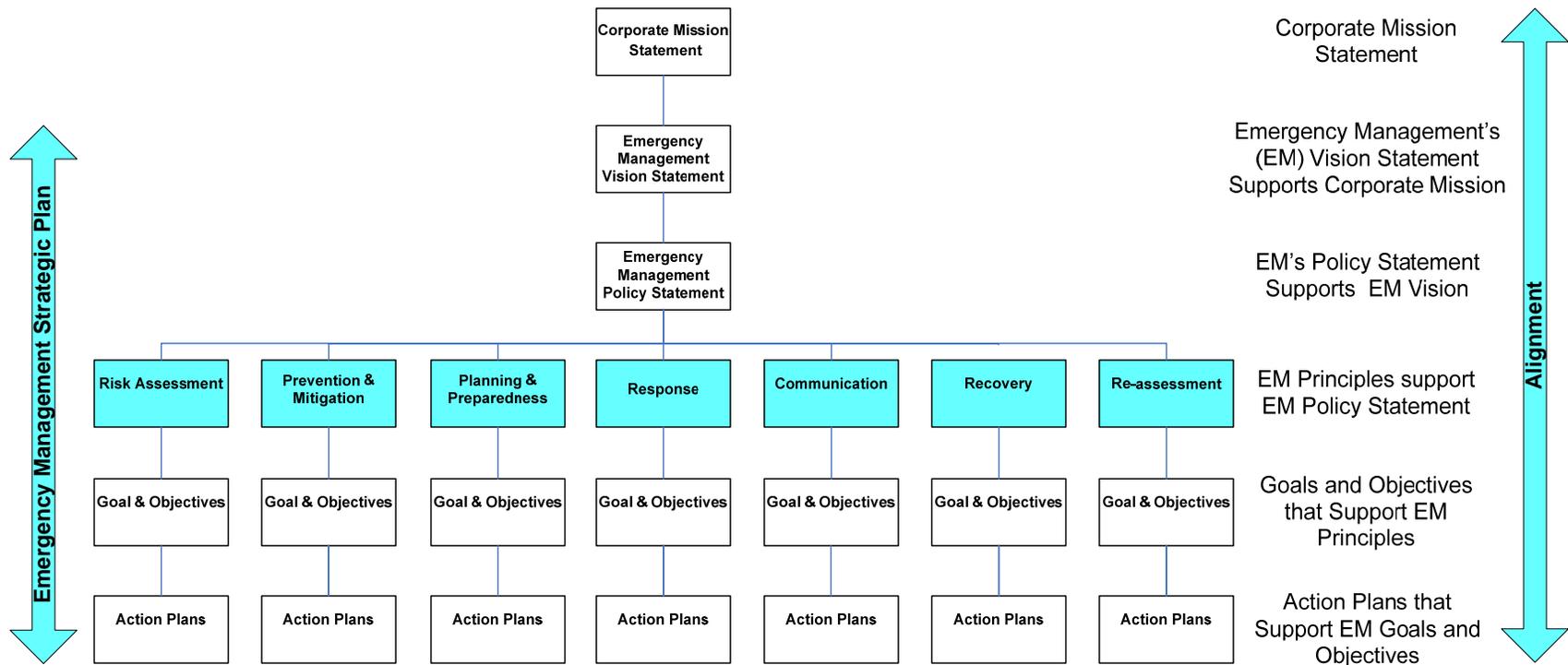
**New York Mutual Assistance Group (NYMAG) Drill:** Con Edison hosted the fall NYMAG meeting attended by representatives from all the NY utilities along with Northeast Utilities and First Energy. A "drill" was conducted to show members of the group what their crews can expect when they support our overhead emergency response activities.

**Outage Management System Enhancements: Several improvements**

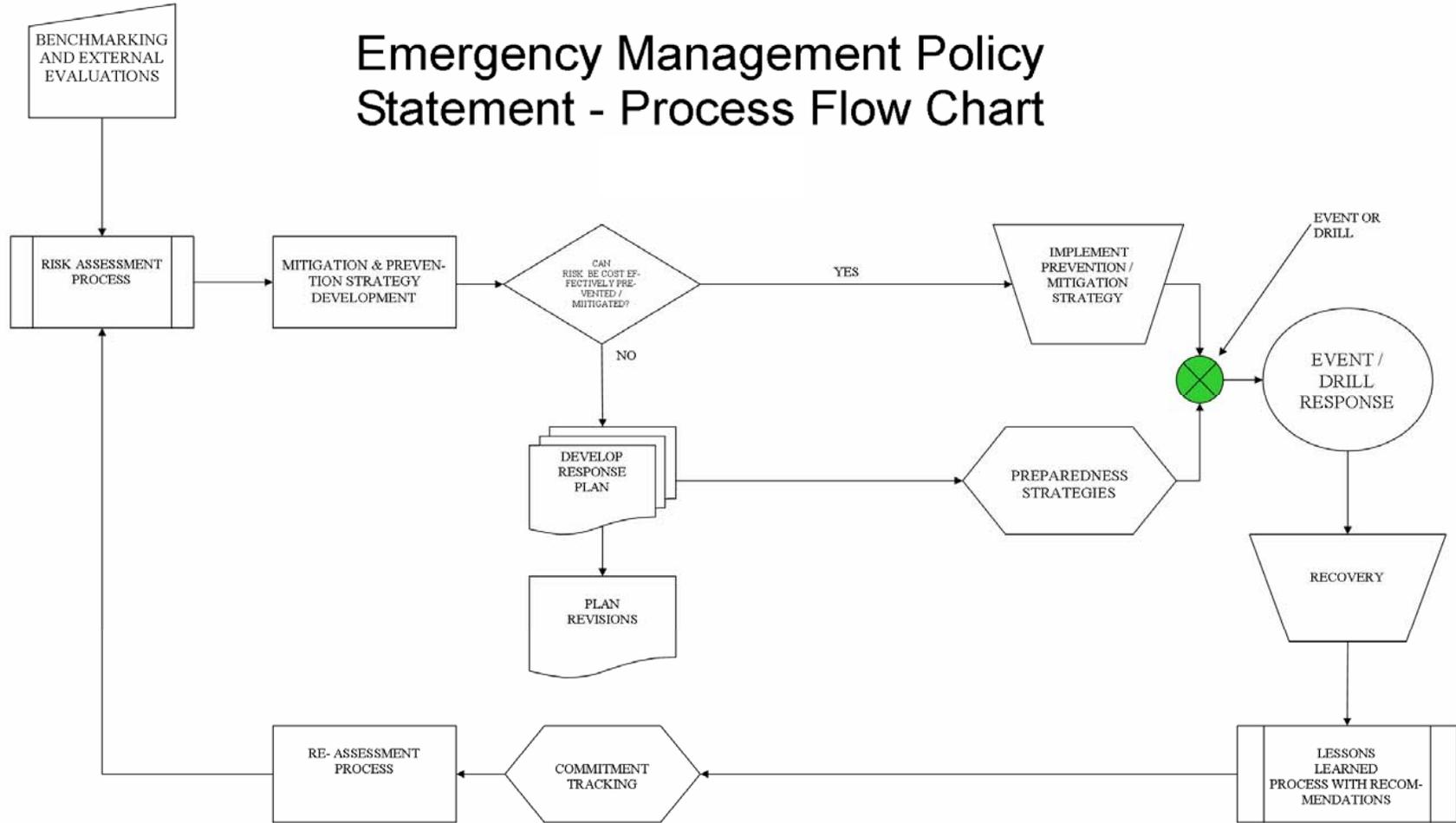
Several enhancements to information technology that directly affect emergency response activities have been accomplished including, automatic ETR access for voice response unit (VRU), global ETR reporting, database server upgrades, integration of Bronx/Westchester overhead Supervisory Control and Data Acquisition (SCADA), and the integration on network graphical grouping function.

**B. Emergency Management Strategic Plan Alignment**

# Emergency Management Strategic Plan and Alignment to Corporate Mission



C. Emergency Management Policy Process Flow



#### D. Table of Acronyms

CERP	Comprehensive Emergency Response Program
CECONY	Consolidated Edison Company of New York
CAIDI	Customer Average Interruption Duration Index
CEMS	Corporate Emergency Management Strategy
DPS	Department of Public Safety
DE	Distribution Engineering
DECP	Distribution Engineering Command Post
DESR	Distribution Engineering Situation Room
EM	Emergency Management
EOEM	Electric Operations Emergency Management
ECS	Emergency Control System
EH&S	Environmental, Health & Safety
ETR	Estimated Time of Restoration
GUW	General Utility Worker
HVCA	High Volume Call Answering
IMS	Information Management System
IAP	Incident Action Plans
ICS	Incident Command System
IMAT	Incident Management Assist Team
LEMS	Logistics Equipment Management System
LIC	Long Island City
MIP	Master Implementation Plan
MVP	Management Variable Pay
PSC	New York State Public Service Commission
O&R	Orange and Rockland
STAR	System Trouble Analysis and Response
SAIFI	System Average Interruption Frequency Index
TAU	Trouble Analysis Unit
TFCC	Twenty First Century Communications