

II. Planning and Preparation

Item #	Division	CRT Recommendation	BWL Division Response
System Resilience			
1	Lead: Emergency Manger Support: Dave Bolan	Working jointly with local emergency planners and municipal governments, update the inventory of critical facilities, as part of a Regional Emergency Operations Plan.	Agreed. The BWL will work jointly with local emergency planners and municipal governments to update the Critical Facilities Inventory for both electric and water services. The updated inventory will be completed by August 31, 2014. By September 30, 2014, the BWL will secure critical infrastructure agreements with local EOC's for sharing its Critical Facilities inventory. The BWL will then work with the Lansing EOC, and through them with other local emergency planners and municipal governments on integrating the Critical Facilities Inventory into the Regional Emergency Operations Plan. After August 31, 2014, the Critical Facilities Inventory update and integration process will take place on an as-needed basis but no less frequently than annually by the end of each calendar year.
2	Lead: Emergency Operations Director Support: Dave Bolan and Calvin Jones	Assist all units of government representing its customer base with identifying Special Needs Facilities for power restoration efforts, including assisted care facilities, elder care facilities, water and sewer plants, food warehouses, Capital City airport and key industry.	Agreed. As part of the process and timing described in CRT#1 above, the BWL will assist all units of government representing its customer base with identifying the Special Needs facilities identified in this Recommendation.
3	Lead: George Stojic	Undertake a program of technical assistance to critical facilities in its service area to determine the feasibility and net benefits of implementing a micro-grid at each such facility, using combined heat and power or renewable generation and storage.	Agreed. By March 31, 2015, the BWL will complete a survey of critical facilities for possible combined heat and power (CHP) opportunities. The survey will include existing distributed generators in the BWL service territory as demand response resources. The BWL will then work with the identified facilities to provide technical assistance in determining the feasibility of implementation of projects, including purchase power agreements. This work will be completed by May 31, 2015. The BWL will also expand its distributed solar energy program by August 1, 2014. The BWL will continue its program of grid sectionalizing to help preserve service to critical facilities with onsite generation.
4	Lead: George Stojic	Explore various options to participate financially in implementing micro grids at critical facilities where they are feasible and beneficial, including power purchase agreements, joint ventures, and Board ownership.	Agreed. As indicated in CRT#3 above, by May 31, 2015, the BWL will explore participation options with those candidates identified in its survey of CHP and distributed generation facilities.
National Incident Management System Implementation & Training			
5		Recognize its role to assist Regional, City and Township Emergency Management in disaster response by implementing all of the following:	
a	Lead: Emergency Operations Director Support: Dave Bolan and Dick Peffley	During any event where the City EOC is activated, including during major widespread outages, a trained and experienced BWL Liaison Officer must be deployed to the City EOC.	Agreed. On April 4, 2014, the BWL assigned three electric liaisons to the Lansing EOC and on April 8, 2014, the BWL assigned three water liaisons to the Lansing EOC. Each liaison is familiar with and either experienced in design or operations of the BWL electric or water distribution systems.
b	Lead: Emergency Manger Support: Dave Bolan and Dick Peffley	Participate in all EM exercises sponsored by any units of government representing its customer base	Agreed. Within 60 days of being hired, the Emergency Manger will survey local EOC's for scheduled EM exercises and request participation. The BWL's Emergency Operations Director will be tasked with ensuring BWL communicates with local units of government including coordinating BWL participation in local emergency exercises.

II. Planning and Preparation

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c	Lead: Emergency Manger Support: All LBWL Managers	Assure that all operations employees receive basic NIMS training, at a minimum the two introductory courses: 1. FEMA IS-700, NIMS An Introduction; 2. IS-100.PW-B, Introduction to the Incident Command System (ICS 100) for Public Works; that all first-line supervisors take those courses, plus ICS-200, Basic ICS; that all senior management officials take those 3 courses, plus ICS-400, Advanced ICS.	Agreed. The BWL currently has the following ICS trained employees: 100 Introduction to Incident Command: 17 ICS 200 ICS for Single Resources and Initial Action Incidents: 13 ICS 300 Intermediate ICS for Expanding Incidents: 14 ICS 400 Advanced ICS: 13 IS G402 ICS for Executives/Senior Officials: 35 IS 700 National Incident Management System (NIMS) An Introduction: 12 IS: 800 National Response Framework, An Introduction: 2 Training is continuing for the remaining employees and must be completed no later than the following dates: 1. All BWL operations employees will complete the FEMA IS-700 IS-100 PW-B and the ICS 100 courses by March 31, 2015 2. All Managers and First-line Supervisors will also take ICS 200 course by November 30, 2014. 3. All BWL Directors will take courses in (1) and (2) and ICS-400 by December 31, 2014.
d	Lead: Emergency Operations Director Support: Appropriate BWL Managers	2) Participate in After-Action Reviews with all units of government representing its customer base, not just post-exercise, but after every major outage, disaster and emergency	Agreed. The BWL 's Emergency Operations Director will be tasked with participating and coordinating BWL participation with units of government representing its customer base in all after action reviews, including exercises, major outages, disasters and emergencies. The BWL will share information, data, and its experiences with other participants to improve regional emergency response. This will be an ongoing responsibility of the Emergency Operations Director with support from BWL Management and Staff.
e	Lead: Emergency Operations Director Support: Dave Bolan, Dick Peffley, and Calvin Jones	Develop and maintain good working relationships with the first-responder community for all units of government representing its customer base	Agreed. To develop and maintain a good working relationship with the first-responder community for all units of government representing its customer base, by the end of the third quarter FY15 the BWL's Emergency Operations Director and GRCSO staff will have met with first responders from throughout its service territory to discuss emergency plans and responder roles. This recommendation will be an ongoing responsibility of the Emergency Operations Director. The BWL recognizes this on-going relationship as an important component of the Unified NIMS structure and guidelines.
Continuity of Operations			
6	Lead: Emergency Operations Director Support: Dave Bolan and Dick Peffley	Consolidate its multiple emergency response plans within the City and Regional plan, (see below) and then test that plan by scheduling a full staff coordinated "table top" exercise at a minimum of every 12 months.	Agree. The BWL's Emergency Operations Director will oversee and complete the consolidation of BWL Emergency Plans by October 31, 2014. The BWL Emergency Operations Director will be tasked with coordinating BWL plan with local or regional plans by December 31, 2014 and on an ongoing basis as updates are adopted. The Emergency Operations Director will also be tasked with coordinating the BWL's participation in City or regional exercises.
7	Lead: Emergency Operations Director Support: Dave Bolan and Dick Peffley	BWL Staff and upper management should participate in the exercises and receive training on these plans and regular refresher training. BWL staff with emergency responsibilities should be required to have training on these plans and their role and responsibilities and the role and responsibilities of others that will be involved with any emergency response.	Agreed. The BWL's Emergency Operations Director will develop and coordinate an Emergency Management training program for all Managers and staff with emergency responsibilities. The program will include annual training. The initial training will be completed within 120 days of the Emergency Operations Director's hire. The Emergency Operations Director will also conduct and coordinate emergency training with other local or regional emergency exercises.

II. Planning and Preparation

Item #	Division	CRT Recommendation	BWL Division Response
8	Lead: Emergency Operations Director Support: Dave Bolan and Dick Peffley	Together with the communities in the greater Lansing area (not just the BWL service area), undertake a regional planning effort to be better prepared and coordinated and assure that emergency communication protocols are agreed to and followed. The mayors and township supervisors of our communities must lead and encourage this effort and provide the necessary resources. This planning effort should be done in coordination with the State Police EMHSD District 1 Coordinator.	Agreed. The BWL will work with local officials and others on a regional planning effort, coordinating as appropriate with the State Police EMHSD District 1 Coordinator. When complete, the BWL will coordinate its Emergency plans with local EOC's and will participate with local EOC's in regional planning and training.
9	Lead: Emergency Operations Director Support: Dave Bolan, Gennie Eva, Dick Peffley, Bruce Cook, and Nick Burwell	Include Business Continuity Planning in its development of a comprehensive Emergency Operations Plan.	Agreed. The BWL's Emergency Operations Director will coordinate development of a business continuity plan as part of the BWL's EOP, with completion by March 30, 2015.
Inter-agency Communications and Emergency Operations Center			
10	Lead: Emergency Operations Director Support: Dave Bolan and Dick Peffley	Develop a comprehensive EOP, in coordination with the City EM officials, that is an Annex to the City EOP, consistent with MCL 30.410 (1) (a)	Agreed. The BWL's Emergency Operations Director will consolidate BWL's emergency plans into a single BWL EOP by October 31, 2014 per CRT#6 above. The BWL Emergency Operations Director will be tasked with coordinating the BWL plan with local or regional plans by December 31, 2014 and on an ongoing basis as updates are adopted. The BWL is committed to a sustained partnership with local EOC's and a Regional EOC and will support development of a regional EOC, should one be adopted.
11	Lead: Emergency Operations Director Support: Dave Bolan and Dick Peffley	Working jointly with the City of Lansing and other regional governments, develop a regional EOP which includes a process for siting, supporting and sustaining a regional EOC.	Please see response to CRT # 10
12	Lead: Emergency Operations Director Support: Dave Bolan, Gennie Eva, and Dick Peffley	Develop, in coordination with the governments representing its customer base, an Energy Annex to a Regional Emergency Operations Plan.	Agreed. The BWL Emergency Operations Director will coordinate the BWL Emergency Plan with local governments and a Regional Emergency Operations plan. The BWL Emergency Operations Director will coordinate the BWL plan with local units of government by December 31, 2014.
13	Lead: Calvin Jones Support: Emergency Operations Director and Dan Barnes	Collaborate with Lansing Emergency Management, Lansing Police Department's Neighborhood Watch, Lansing Neighborhood Council, East Lansing neighborhood associations and similar groups in all townships in the development of a program supporting block level emergency response plans. This effort would build upon the well-developed social infrastructure of Lansing's 186 organized neighborhood groups and prepare them to play an important role in planning for, responding to, and recovering from extreme weather events.	Agreed. On January 23, 2014, the BWL's Governmental Relations and Community Services Department (GRCS) began a program of outreach to neighborhood associations. To date, the GRCS has been in direct communications; in person, by phone, or by email; with 115 of the 124 known neighborhood associations (93%) who's members, in part, or entirely, fall within the BWL Service territory. The GRCS will be reaching out by letter to the remaining 9 associations by the end of July, 2014. The GRCS goal has been to promote communications and education regarding preparations for future emergencies. The GRCS is also collaborating with Do1Thing, the Red Cross, and The Power of We to make the BWL an emergency preparedness resource for the BWL's customer base. As an ongoing responsibility, the GRCS will continue outreach to neighborhood associations and other local organizations in order to provide information, coordination, and assistance with emergency preparedness plans.

II. Planning and Preparation

Item #	Division	CRT Recommendation	BWL Division Response
BWL Crisis Communications			
14	Lead: Stephen Serekaian Support: Calvin Jones, Bruce Cook, and Nick Burwell	Create a robust social media presence for its customers – this work is already underway internally, but must become a priority for its communications operations, as consumers are primarily using digital communication tools to learn about outages and other service issues.	Agreed. The BWL has hired a social media specialist and has tasked the position with undertaking and coordinating social media communications with BWL customers including, among other media, updating the BWL's Facebook, twitter, Nixle, and website. The BWL has recently created a near real time outage map with restoration times on its website.
15	Lead: Emergency Manger Support: Calvin Jones and Stephen Serkaian	Require all communications staff and senior leadership to undergo certified NIMS communications training in order to understand best communications practices during crisis situations, with associated training events and tabletop exercises to ensure coordination of communications functions with regional governments.	Agreed. The BWL communication, GRCSO staff, and leadership have already begun NIMS training. The BWL's Emergency Operations Director will be tasked with assuring communications staff annually update their training and that BWL's communications staff and leadership team participate in local and regional emergency exercises.
16	Lead: Stephen Serkaian Support: Emergency Operations Director	Further refine the March 2014 plan. The plan must contain greater detail on how to address the need for timely and accurate information; customer information must be consistently explained in a way that effectively meets customer expectations; and the plan must assure the provision of information sufficient to allow the public to make informed decisions on how they may best respond. There is a considerable body of studies on this subject that should be drawn upon in the development of such a plan. Once this plan is completed the BWL management and employees must be trained on, periodically exercise, and follow the plan.	Agreed. The Crisis Communications plan was developed by consultants based on industry best practices. The BWL agrees that customer communications must be timely, accurate, consistent, meet customer expectations, and provide sufficient information for customers to make informed decisions. To ensure that the BWL's crisis communications plan meets those objectives, the BWL will continue to review crisis communications studies and reports and make any necessary modifications to its plan by August 31, 2014. Following this, the Crisis Communications plan will be updated on an as-needed basis, with complete review and update performed annually at a minimum.
17	Lead: Emergency Operations Director Support: Stephen Serkaian	The crisis communications plan must be an annex to the Emergency Operations Plan and should be guided by a qualified communications professional certified through the NIMS protocols.	Agreed. The BWL Emergency Operations Director will be tasked with consolidating BWL emergency plans and will include the crisis communications plan in the consolidated plan as an annex. Emergency communications staff will undergo NIMS training, which will be completed by November 1, 2014, and at least one staff member will complete training for qualification through NIMS protocols.
City Emergency Planning & the Collaborative Planning Process			
18		Consider amendment of the City Charter to clarify the powers of the Mayor and to provide the Mayor executive authority over the BWL during disasters or emergencies	City of Lansing
19	Lead: Emergency Operations Director	Emergency Management Director, working with all other member communities, including Ingham, Clinton and Eaton Counties, create a regional emergency operations plan (EOP).	Agreed. The BWL will participate in encouraging and developing a regional emergency operations plan.
20	Lead: Emergency Operations Director	Work with BWL Operations and Senior Leadership to integrate their BESOC and Crisis Command Center, using the NIMS framework, with the City EOC.	Agreed. The BWL stands ready to cooperate with the City Emergency Director to fulfill this recommendation.
21		Consider fully integrating BWL employees into the City EM structure.	City of Lansing

II. Planning and Preparation

Item #	Division	CRT Recommendation	BWL Division Response
22	Lead: Emergency Operations Director	Recommend appropriate emergency management training for BWL leadership, including Commissioners, on how best to build in resilience and ensure full response capability to storms that are increasing in severity and frequency.	Agreed. Training will be scheduled for BWL leadership and Commissioners by end of fiscal year 2015. NIMS and ICS training will be offered to Commissioners as well as training on resiliency.
23	Lead: Emergency Operations Director	Sponsor or encourage a full scale training exercise, involving emergency management staff of all units of government and BWL in the tri-county region, to take place annually.	Agreed. The BWL will participate in full scale regional training exercises.
Emergency Declarations			
24		That all units of government within or partially within the BWL customer service area review their emergency operations plans to include a process for assessing the need for an anticipatory emergency declaration.	City of Lansing and local units of government

III. Response and Restoration

Item #	Division	CRT Recommendation	BWL Division Response
BWL Storm Response			
25	Lead: Dave Bolan	Given that insufficient spotters for damage assessment was a serious problem in the December outage, identify the types of spotters necessary and currently lacking.	The BWL has determined that it needed more "A" spotters during a major event like the ice storm. The BWL has increased its internal spotter crews from 23 to 27 and has contracted for up to 17 spotter crews from an outside contractor. This number, along with the option of using mutual aid crews for spotter activity (see response to #25), substantially increases the number of spotter crews available to the BWL during a major storm event. The number of spotters actually needed for restoration depends on the scope of damage incurred during the storm, but the BWL believes that this number of A spotters is sufficient to efficiently and safely perform damage assessment and avoid the bottlenecks experienced during the December ice storm. In addition, during April, 2014 the BWL adopted a set of triggers that would have automatically deployed predetermined numbers of spotter crews dependent on the type of storm. Major storm categories include wind and thunderstorms, ice accumulation, and early season snow storms when leaves remain on trees.
26	Lead: Dave Bolan	Include the acquisition of qualified primary distribution system spotters in its mutual aid agreements and extraordinary assistance contracts. Since repair crews are fundamentally more expensive than spotters, we believe that repair crews should be the restoration bottleneck rather than spotters.	Agreed. The BWL signed an agreement with Osmose on April 30, 2014 for storm assessment and recovery services. Assessment services include Spotter duties for the BWL. This increases the number of crews immediately available by up to 17. Moreover, the BWL can use mutual aid and line worker contractors as spotters.
27	Lead: Dave Bolan	Identify specific personnel for spotter duty and training for deployment in emergencies. This function should be mandatory, not voluntary on the part of the employee, as it appears to be now. Training should also be mandatory and held, minimally, once per year.	The BWL has increased its internal spotter crews from 23 to 27 and will be determining how many additional employees can serve in that capacity by June 30, 2014. After determining how many additional employees are available and will serve in spotter roles, the BWL will determine if it has sufficient spotter crews and, if not, whether spotter participation should be mandatory. This determination will be made by June 30, 2014. Agree that training should be mandatory and conducted once a year.
28	Lead: Dave Bolan	That the two person line crew requirement and the requirement that a BWL employee accompany the outside contracted line crew are reasonable to ensure safety of BWL employees.	This is already in place and part of the existing IBEW contract.
Outage Management System			
29	Lead: Nick Burwell Support: Emergency Manager	Integrate the OMS into an Emergency Operations Plan (EOP) which is tested to its maximum capacity68., both to assure system functionality and to assure integration with restoration operations, on a semi- annual (6 months) basis. Staff noted that because they had not experienced an outage of more than 20,000 customers, they assumed that was the maximum ever likely. As noted above, recent reports indicate that storm frequency and intensity are on the rise. Since the outage, the now apparently functional OMS has been tested for loss of power to 35,000 households—still fewer than lost power in the December outage. Therefore, the system must be tested to its maximum capability	Agreed. The Outage Management System was tested on March 11, 2014. In addition to the Outage Management System, this test included the connection to the 800 Outage Call Vendor and the Outage map. These were all successfully stress tested at a rate of 35,000 calls per hour. This rate is a scenario in which 100% of the BWL's customers are out of service, and one-third call the 800 number and are matched to a service address in the first hour of the outage. The BWL believes this to be a very robust scenario and tests will continue as part of an emergency response plan. The system will be "stress" tested in a similar manner to the March 11th test on a schedule adopted by the Emergency Manager, but no less frequently than annually. The OMS will be integrated into the BWL's consolidated emergency operations plan through the Transmission and Distribution Restoration plan.

III. Response and Restoration

Item #	Division	CRT Recommendation	BWL Division Response
30	Lead: Nick Burwell	Remedy the lack of redundancy in their OMS System by (1) devising an alternative system and (2) including the potential loss of OMS as a contingency in EOP. The OMS failed during the December outage and had no backup system.	Agreed. The goal of the BWL is complete dynamic redundancy on all critical systems, however since it was not available for this system it will be requested in the next generation of software integrating OMS to control systems. The BWL worked with GE and other utilities to design redundancy and automatic fail-over into the BWL system where possible. This design included virtualization, hardware and network redundancy, and storing backup data at an offsite data center. The worst case scenario would require disaster recovery, in which case data and components are available but require time to operationalize. The BWL disaster recovery process will be tested by August 1, 2014. In the event that the OMS is not operational, BWL Operations Staff has an alternative process currently in place. They will complete formal documentation of this process by December 31, 2014.
31	Lead: Nick Burwell and Dave Bolan	The IT Department shall report OMS implementation and maintenance and redundant system development to the Board of Commissioners at least monthly. Further, the Commissioners should carefully review the history of the selection, installation, and performance of the GE OMS system to determine if further action is required.	Agreed. The OMS is only one of many technological and human components in the <u>process</u> of reporting, tracking, communicating and restoring service to BWL customers. The process begins when a BWL customer first loses power and reports the outage and ends when the customer is back on and all final distribution work and site clean up has been completed. BWL staff will be reporting to the Board of Commissioners on the results of the tabletop exercises and the stress testing of the entire process, not just one software component, at a frequency determined by the Commission.
32	Lead: Bruce Cook Support: Nick Burwell	A contingency retainer agreement with a third-party answering service must be executed. This is consistent with the BWL changing its corporate philosophy to one that plans for, recognizes, and addresses all potential contingencies.	Agreed. The BWL signed a contract for call and media support with AMBS in February, 2014. Phase one, which provides media backup, has already been implemented. Phase 2, which provides call and outage entering support after hours and during a major event will be implemented by August 1, 2014.
Recordkeeping			
33	Lead: Emergency Manager Support: Dave Bolan and Dick Peffley	Maintain and retain all information developed during restoration operations, including all forms of communications. Retaining this information will assist post restoration analysis, enhance institutional retention and uses of valid lessons learned, and improve the technical competencies of field engineers and technicians, as well as assuring operations or restoration manager's decision making processes are more clearly understood by future key personnel.	Agreed. The BWL Emergency Manager will be tasked with including records retention requirements in emergency plans. The records retention requirements will be incorporated into the BWL Emergency Plan within 4 months of the Emergency Manager's date of hire.
34		Information to be retained should include:	
a	Lead: Emergency Manager Support: Dave Bolan and Dick Peffley	A full log of the operations/restoration center input (phone calls, emails, radio messages, etc.), including identification of individuals sending and receiving, during the event.	Please see response to CRT #32.
b	Lead: Emergency Manager Support: Dave Bolan and Dick Peffley	A full log of output, as in #1 above.	Please see response to CRT #32.

III. Response and Restoration

Item #	Division	CRT Recommendation	BWL Division Response
c	Lead: Emergency Manager Support: Dave Bolan and Dick Peffley	Set of maps, optimally GIS, depicting the stages of the event, including at least, the initial outage area and affected components and customer zones, and stages of restoration sufficient to recreate the series of restoration actions leading to full restoration.	Please see response to CRT #32.
d	Lead: Emergency Manager Support: Dave Bolan and Dick Peffley	Full log of personnel engaged in restoration activities.	Please see response to CRT #32.
e	Lead: Emergency Manager Support: Dave Bolan and Dick Peffley	Full log of components and equipment used. This, optimally, would differentiate between components initially/originally identified for the restoration and those identified during the event based on discovery of event damage.	Please see response to CRT #32.
f	Lead: Emergency Manager Support: Dave Bolan and Dick Peffley	Log of field engineer actions; optimally with enough specificity to distinguish technical actions vs. administrative actions.	Please see response to CRT #32.
g	Lead: Emergency Manager Support: Dave Bolan and Dick Peffley	Log of physical access entries, either IAW or similar to NERC CIP standards for Physical Access to BES sites.	This has been and continues to be a part of BWL's procedures.
h	Lead: Emergency Manager Support: Dave Bolan and Dick Peffley	Log of all connections to the local control systems during the restoration, including full hardware/software descriptions and each connecting devices security certificate.	This has been and continues to be a part of BWL's procedures.
i	Lead: Emergency Manager Support: Dave Bolan and Dick Peffley	Log of interactions with partner utilities, Independent/Regional Systems Operators (ISO/RSO), private, state and federal regulatory organizations, state utility commissions, state governing personnel, federal entity personnel supporting restoration activities, as well as other personnel or organization interactions relevant to the restoration or an understanding of their role or influence on the restoration activities.	This has been and continues to be a part of BWL's procedures.
35	Lead: Emergency Manager Support: Dave Bolan and Dick Peffley	Retain this documentation in a form that enables efficient use, recall, and reuse, and in a format that is compatible with performing the same series of retention actions for future events; i.e., not a 'one time" storage, but with future use and comparison in mind.	Agreed. This has been and continues to be a part of BWL's procedures.

IV. Recovery and Mitigation

Item #	Division	CRT Recommendation	BWL Division Response
Tree and Vegetation Management			
36	Lead: Dave Bolan	Contract with, or otherwise fund, the City of Lansing Operations and Maintenance Division to do all tree trimming for BWL in those areas (tree lawns and adjacent to city parks and golf courses) where the City is already engaged in vegetation management.	Agreed. The BWL will issue an RFP for vegetation management services, including standard agreements, in the second quarter of FY15. The BWL will include City of Lansing Operations and Maintenance in the RFP bidders list and will review bidding opportunities and requirements with the city. Any entity performing this service for the BWL will be required to meet all BWL scheduling, certification, safety requirement and trim to BWL Standards. By August 31, 2014 BWL will have a standard agreements in place for these services.
37	Lead: Dave Bolan	Evaluate its 5-year schedule to determine whether vegetation management needs to be even more aggressive. Based on the Board's representation that it has been close to a five-year cycle for vegetation management, however, it is doubtful that shortening that cycle will provide much benefit. Rather, based on both public comments and comments from the BWL, focus should be placed on a strong and effective quality assurance program. Adjustments to the vegetation management standards must be made, especially with respect to the removal of dead trees or trees in poor condition.	Agreed. This analysis is complete. Presently, the BWL tree trimming policy is a 5 year tree trimming cycle. This policy and its standards are in accordance to industry best practices. The BWL has adjusted its policy to include clearance of branches above lines and will work with property owners on removal or trimming of dead trees or trees posing a danger to distribution facilities outside the right of way. BWL staff inspects all work done by its tree trimming contractors and has publicized, for its customers' reference, the phone number of its supervisor for vegetation management. The Staff will reassess progress on the five year cycle, its efficacy and any changes needed to the cycle, its vegetation management policy, and the vegetation management budget by the end of FY15.
38	Lead: Dave Bolan	Perform an 100% audit of all lines annually to ensure both that the BWL can stay on track in its vegetation cycle and that sections that may require immediate attention are not neglected.	BWL agrees that audits of its lines are necessary and agrees to perform audits sufficient to enable it to maintain its vegetation management cycle. Sections needing immediate attention will receive priority treatment.
39	Lead: Dave Bolan	Explore collaboration with other entities doing tree-trimming (City of East Lansing, Townships, Consumers Energy, DTE) in order to increase efficiencies.	Please see response to CRT #35. This will include other local entities.
Grid Asset Management (pg. 56)			
40	Lead: Dave Bolan	Budget for distribution system maintenance based on regular replacement of each and every component at its engineering-based life-length and continue to recalculate its grid maintenance budget on that basis in all future budgets.	Agreed. The BWL agrees that engineering-based life -length is an important criteria for maintenance budgets. The BWL utilizes an industry recognized asset management approach that takes into account the expected lifespan of an asset, as well as its condition and the risk it poses on the integrity of the system if it fails. The BWL will continue making T&D system maintenance expenditures consistent with its asset management program.

IV. Recovery and Mitigation

Item #	Division	CRT Recommendation	BWL Division Response
41	Lead: Dave Bolan	Implement a procedure that actual replacement of most grid assets will be condition-based, or because distinctly better technology is available and warrants replacement of equipment that is not yet at end of life.	Agreed. The BWL will continue with T&D system maintenance and investment expenditures as determined by BWL's asset management approach. The BWL does consider the replacement of exiting grid assets prior to the end of its useful life with better technology based on reliability and cost effectiveness criteria.
42	Lead: Calvin Jones	Establish a process of long-term scheduling and annual work coordination in conjunction with each of its host communities.	Agreed. As an ongoing responsibility, the BWL's GRCS D department will communicate major BWL T&D work with local governmental communities and coordinate BWL projects with local projects in host communities when possible, beginning July 1, 2014.
Securing Downed Lines			
43	Lead: Dave Bolan	Undertake a value engineering analysis of the potential deployment of automatic circuit interrupters in its distribution grid and implement them accordingly.	Agreed. Value engineering is and has been a practice at the BWL. The BWL has long recognized the reliability contribution of sectionalizing its distribution system, a part of which are automatic circuit interrupters. Circuit interrupters along with other distribution automation investment, like automatic circuit switchers, will continue to be integrated into the BWL's grid on a value engineered basis.
44	Lead: Dave Bolan	Adopt the practice of installing breakaway service drops whenever it installs or repairs a service drop or performs major maintenance on the distribution line to which a service drop is connected.	The BWL agrees that by May 31, 2015 it will evaluate the use of breakaway service drops to determine if they meet BWL performance, safety and cost requirements. If they meet these requirements, the BWL will begin deployment of the breakaway service drops on a replacement basis.
45	Lead: Dave Bolan	Perform a benefit cost analysis to determine whether a proactive effort to install breakaway service drops is warranted.	Please see response to CRT #43.
Hardening the Primary Distribution System			
46	Lead: Dave Bolan	Undertake a value engineering analysis of its entire primary distribution system, with the intent to calculate the optimum extent and topology of the primary distribution grid, and the optimum design of each segment of its primary distribution grid. This analysis should consider all aspects of distribution grid performance, but particularly should include strong consideration of its effects on outage extent and time to service restoration in major storm events.	As part of a near-term and a longer-term T&D investment program the BWL agrees to undertake a value engineering analysis of its primary distribution system. This near-term program involves major upgrades to the BWL's T&D bulk system, smart grid investments, and ongoing distribution automation investments. This program is designed to improve transmission and distribution reliability, reduce outage incidences and restoration times, and build resiliency into the BWL's system. For the long-term, the BWL is in the process of developing a more detailed T&D system plan. This long-term plan will include a more comprehensive analysis of the BWL's entire primary distribution system and is expected to be complete in 2017. Both near-term and long-term plans are based on electric reliability requirements and value engineering.

IV. Recovery and Mitigation

Item #	Division	CRT Recommendation	BWL Division Response
47	Lead: Dave Bolan	When performing value engineering of the primary distribution grid and in implementing any hardening of the primary distribution grid, the BWL should examine opportunities to reduce costs (or improve results) through collaboration with host communities.	Agreed. The BWL will examine cooperative opportunities with local units of government in developing and implementing its 5 year T&D plan. The BWL's GRCSO personnel will be tasked with regularly communicating with local governments to monitor and coordinate construction programs when possible. The GRCSO will begin meeting with local governments by July 1, 2014.
Accelerating Repairs to the Primary Distribution System			
48	Lead: Dave Bolan	Examine options to add additional sensors to the primary distribution system so as to localize faults much more quickly. Sensors are not particularly expensive and use of increased numbers of them may well be warranted.	Agreed. The BWL has undertaken investments to sectionalize its system for a number of years. This strategy works to localize faults. As part of its T&D plans, the BWL will continue its sectionalization efforts. In addition to its use of distribution automation technology, the BWL will be implementing a pilot of Smart Grid technology during FY15. In the future this technology will help to improve fault detection and isolation.
49		Harden the Secondary Distribution System	
a	Lead: Dave Bolan	Breaks and other faults in the secondary distribution system affect fewer customers per fault and are easier to repair than are faults in the primary distribution system. Thus, while we encourage the Board to undertake some hardening of the secondary distribution system, the CRT believes the Board should focus its grid maintenance and upgrade investments on the primary distribution system for the next few years.	Agreed. The BWL is currently placing most attention on its high voltage transmission and primary distribution systems. However, as part of its long-term T&D Plan (see #45) the BWL will examine secondary system hardening design techniques to reduce outages related to storms
b	Lead: Dave Bolan	Vegetation management is a key to reducing storm-induced outages in the secondary distribution system as it currently exists. Accepting BWL's representation that it will "strictly adhere" to a five-year cycle for vegetation management, the CRT believes that shortening that cycle further will not provide much further benefit. Rather, based on both public and BWL staff comments we believe that the Board should focus on a strong and effective quality assurance program for its vegetation management and consider making some adjustments in its vegetation management standards, especially with respect to the removal of dead trees or trees in poor condition. See the vegetation management section for further analysis of these issues.	Please see response to CRT #36. BWL performs Quality Assurance inspections on all tree trimming work performed by contractors. In addition, the BWL supervisor of vegetation management contact information is on the BWL website for questions and public input.
c	Lead: Dave Bolan	Once the value engineering analysis of the primary distribution system is completed, the BWL could begin using internal staff to undertake a substation-by-substation analysis of the secondary distribution lines fed from each substation and optimize the configuration of that portion of the secondary distribution grid. The order in which this analysis is done should begin with those portions of the secondary distribution grid suffering the greatest outage experience in recent storms and proceed toward those with apparently less risk. As these lines run through neighborhoods, and options to improve the secondary distribution system will require collective decisions about vegetation management, line relocation, undergrounding, and the like, that the BWL is not necessarily institutionally empowered to make on its own, we recommend that this planning be done jointly with the local government and engage the affected neighborhood.	Agreed. The BWL is currently designing upgrades for its high voltage transmission and primary systems. A more comprehensive long-term T&D plan will be complete in 2017. The configuration of the secondary system will be included in the long-term plan. The BWL will collaborate with local units of government as it designs and plans upgrades to its secondary system.

IV. Recovery and Mitigation

Item #	Division	CRT Recommendation	BWL Division Response
50	Lead: Calvin Jones	Direct its staff to work with local units of government to determine optimal strategies to harden the secondary distribution system, proceeding substation-by-substation in the order of susceptibility to storm damage as determined by experience in recent storms.	Agreed. The BWL through its GRCS staff will collaborate with local governments as the BWL plans and implements programs and technology to harden its secondary distribution system.
Accelerating Repairs to the Secondary Distribution System			
51	Lead: Dave Bolan	Proceed as quickly as is consistent with good practice to deploy smart meters and integrate them to its outage management system to accelerate the identification and repair of the secondary distribution system after storm damage.	Agreed. This is currently part of the BWL Smart Grid Initiative. BWL's capital budget projects investments of \$27,000,000 for Smart Grid Technology over the next 4 to 6 years with smart meter installations beginning in FY15.
52	Lead: Dave Bolan	In the interim, ensure that it has an adequate core of spotters for restoration of the secondary distribution system following a storm.	Please see responses to CRT #'s 24, 25, and 26.
53	Lead: Dave Bolan	Deploy smart meters first to those residences located on lateral circuits.	Agreed. This is currently part of the BWL Smart Grid Initiative due to commence in FY15.
Masts and Pocket Outages			
54	Lead: Gennie Eva	Consider plans to own the system, including the mast, through to their meter box, as part of its benefit cost analysis to determine whether a proactive effort to install breakaway service drops is warranted.	Agreed. The BWL has developed a policy to finance mast repair during storm restoration, and the plan was rolled-out to the public on June 4, 2014. See Response to CRT#43 for information regarding breakaway service drops
55	Lead: Dave Bolan	Consider plans to install breakaway service drops first to those customers on lateral circuits or to special needs customers.	Please see response to CRT #43.
Medical Needs & Senior Citizens			
56	Lead: Bruce Cook Support: Emergency Manager and Calvin Jones	Develop through voluntary customer participation, and maintain, a list of all elderly customers and those with medical needs.	Agreed. The BWL Medical Alert Program is currently in place. Consent forms to share medical alert with emergency response personnel for the purpose of wellness checks will be sent out by August 1, 2014. Letters to all residential electric customers will be sent out by August 1, 2014, providing the opportunity to identify senior citizens residing at the address, and requesting consent to share information with emergency response personnel for the purpose of wellness checks. This process will be ongoing, so that the BWL can maintain an update list of seniors and customers with medical needs.
57	Lead: Emergency Manager Support: Bruce Cook	Communicate daily with all EOCs to coordinate with emergency response personnel in all municipalities to ensure the safety of vulnerable citizens during an outage or other emergency event. Communication should be for the duration of a storm event.	Please refer to #54, Customer Service will maintain lists of medical alert, senior citizens, and other vulnerable customers. In the event of an extended power outage, a list of affected customers who have allowed the BWL to share their information with local authorities will be provided to the BWL EOC contact and to BWL Emergency Manager to distribute to emergency response personnel for the purpose of wellness checks.
58	Lead: Emergency Manager Support: Bruce Cook	As part of the integrated Regional EOP, provide the regional EOC (or all EOCs or EMs for all governments within its customer service area, if no regional EOC is created) with up-to-date information of the location of its at-risk customers.	Please see responses to CRT #'s 54 and 55.

IV. Recovery and Mitigation

Item #	Division	CRT Recommendation	BWL Division Response
59	Lead: Emergency Manager Support: Bruce Cook	Revise items 44, 47, 48, 54 of the outage report. There must be a coordinated effort between BWL and local government emergency personnel and community groups to assure clear communication and coordination of efforts to protect at- risk customers when an emergency arises.	Please see responses to #'s 54 and 55. A communications plan has been developed to provide consistent, timely accurate information to customers during an outage and liaisons have been assigned to local governmental leaders to keep them informed on outage scope, restoration progress, and other information.
Energy Self-reliance and Islanding			
60	Lead: Calvin Jones Support: Emergency Manager	Create a Community Resilience Planning Coalition which would take a broad approach to building community level resilience to extreme events by:	BWL agrees to participate in a community resilience coalition. The BWL GRCSO department is in the process of assisting local organizations and neighborhood associations with resiliency planning by actively meeting with associations to promote communications and education and participating with Do1Thing, the Red Cross, and the Power of We Consortium. The GRCSO has made the BWL a resource for these organizations, to help coordinate readiness plans and communications and stands ready to assist with a broader community resiliency program.
a	Lead: Emergency Manager Support: Calvin Jones	Participating in the drafting of a regional emergency response plan, that would include community organizations' input on issues including a coordinated crisis communications plan and procedures to ensure a coordinated, efficient response to hazards across jurisdictions;	Agreed. The BWL's Emergency Manager will coordinate the BWL's emergency plan with the City by December 31, 2014 and will be the primary liaison with the City and local communities regarding the BWL's emergency plan. The Emergency Manager, along with the GRCSO department, will participate and assist in drafting a regional emergency response plan to better prepare and coordinate response and communications to during emergencies.
b	Lead: George Stojic Support: Dave Bolan and Dick Peffley	Providing a forum for consideration of new risk reducing technologies and design in the built environment;	Agreed. The BWL will schedule a risk reduction technology forum for the third quarter of FY15. In addition to utility related technology, parties interested in a broader, community wide, risk reduction technology opportunities will be invited.
c	Lead: Calvin Jones	Promoting strategies for engaging and organizing the community at multiple levels (household, block, neighborhood, shelters and non-profits, businesses, jurisdiction) to identify vulnerabilities, mitigate risk and better prepare for response and recovery from extreme events, and	Agreed. The BWL's GRCSO department has been tasked with meeting, engaging, and acting as a resource for community organizations and associations to identify vulnerabilities, mitigate risk and better prepare response and recovery from extreme events. The GRCSO has already met with 115 neighborhood associations and will schedule meetings with remaining 9 by the end of July, 2014. The GRCSO promotes communications and education on emergency preparedness and makes the BWL available as a resource for those organizations. This will be an ongoing responsibility of the GRCSO.
d	Lead: Calvin Jones	Providing a platform for regional sharing of lessons learned; connecting people, ideas, and resources; and engaging policymakers and community members in an ongoing conversation about resilience.	Please see response to CRT #58.
61	Lead: George Stojic	Include regional resiliency, including energy self-reliance, as a strategic goal	Agreed. BWL is investing \$175,000,000 over the next 6 years to harden its system and improve reliable service to its customers through a more robust transmission system and stronger interconnections to the interstate power grid. The construction of the REO Town cogeneration plant further improves local reliability. Programs like the current solar energy RFP will also help strengthen the BWL's system along with the CHP and distributed generation program referenced in response to #3. The BWL will continue to look for ways to protect its system from both internal and external disturbances. Reliability of the bulk power system has been enhanced by mandatory electric reliability standards adopted and enforced by the Federal Government. The BWL adheres to these mandatory national standards. Local projects implemented by the BWL along with the Federal Government's reliability standards help assure reliability of the bulk electric system in Mid-Michigan.
62	Lead: George Stojic	Explore the potential for "islanding" to protect the local electrical grid, with BWL taking the lead in creating an innovative, strategic solution	Please see response to #59.
Board of Commissioners' Oversight			
63	LBWL Board of Commissioners	Hire an "operational auditor" to conduct annual performance audits of the BWL operations and planning;	For Board's consideration

IV. Recovery and Mitigation

Item #	Division	CRT Recommendation	BWL Division Response
64	LBWL Board of Commissioners	Establish a standing committee for review of, and contract with outside expertise for, an annual operational audit.	For Board's consideration
65	LBWL Board of Commissioners	Institute a training process for all board members in Carver or other Policy Governance Model. Implement and use the model and continue the training on an ongoing basis.	For Board's consideration
66	LBWL Board of Commissioners	Request the City to consider provision to the BWL Board of expense reimbursement and/or some minor stipend for attendance.	For Board's consideration
67	LBWL Board of Commissioners	Create a Local Government Liaison Committee of Board members and local government representatives from remaining governments, which will meet quarterly to review service-related issues and to recommend changes, improvements, and innovations AND the Board must institute a clear process for plenary and due consideration and action on the Committee's recommendations;	The BWL Executive Committee has met to explore the creation of an ad hoc committee to serve as a liaison with local government representatives.
68	LBWL Board of Commissioners	Request an opinion from the Lansing City attorney to clarify whether an ordinance or City Charter amendment could establish an expanded Board to include non-Lansing residents, to represent the municipalities within the BWL customer area.	For Board's consideration
69	LBWL Board of Commissioners	Urge the involved governments, the City of Lansing and the City of East Lansing and all townships with residents within the BWL customer area to meet and discuss the concept of representation on the BWL Board. These discussions must focus on the need for regionally developed and implemented plans for emergency response and for resiliency.	For Board's consideration
70	LBWL Board of Commissioners	Create and drive the system for implementation of the Internal Report and the CRT Report.	For Board's consideration
71	LBWL Board of Commissioners	Recommend to the City a "Best Practice" for recruiting new board members. Not only those that may represent certain areas that they serve, but recruit to needs of expertise, including, as examples only, an engineering background, business background or security background.	For Board's consideration
<p align="center">CRT Recommends that the Board of the BWL: Review the standards for comparable utilities (both privately owned utilities regulated by public regulatory bodies like the MPSC, and Municipal Utilities) and consider establishing clear standards for BWL upon which to base its operations and budgets to ensure adequate preparation, response and restoration of service for future emergency events .</p>			
72	Lead: Dave Bolan	Setting a vegetation management schedule and budget & complying with it (pgs. 23-26 of MPSC staff report)	Please see response to CRT # 36. The BWL understands the importance of and is committed to rigorously adhering to its vegetation management schedule along with inspecting all work performed by contractors.
73	Lead: Bruce Cook	Customer call answer time – rule 460.724 (pg. 29 of MSPC staff report)	Agreed. The BWL will adopt this standard and expects to adhere to the standard by June 1, 2015.

IV. Recovery and Mitigation

Item #	Division	CRT Recommendation	BWL Division Response
74	Lead: Calvin Jones	Community outreach activities (no rule – but see comparison pg. 32 of MPSC staff report)	Please see response to CRT # 60. In addition, the GRCSO department will survey utilities to identify outreach programs adopted for major outages. By end of the second quarter FY15, GRCSO will complete the survey and will review and assess which opportunities may be appropriate for the Lansing community.
75	Lead: Bruce Cook	Blockage time of customer ability to report outage – (reference to rule at pgs. 32-33 of MPSC staff report)	Agreed. The BWL will adopt this standard and expects to adhere to the standard by June 1, 2015.
76	Lead: Gennie Eva	Service quality credits (rule 461.744-746, pg. 34 of MSPC staff report)	Agreed. The BWL has provided credits for customers without power during the ice storm.
77	Lead: Dave Bolan	Time limits for relief of non-utility personnel guarding downed power lines	Agreed. The BWL will adhere to limits, refer to #76 below.
78	Lead: Dave Bolan	(Rule 460.723, pg. 37 of MPSC staff report) sets time limits for non-utility employees (i.e. police /fire personnel) guarding a downed wire. & adequate number of persons certified to perform wire down duty during high volume event (pg. 38 of MPSC staff report).	Agreed. The BWL will adhere to this standard as part of its procedures beginning June 1, 2014
BWL Senior Leadership			
79	Lead: J. Peter Lark	Establish a Customer Ombudsman, Chief Customer Officer or expand the duties of the Director of Governmental Affairs and Customer Relations, directly reportable to the General Manager.	Agreed. Customer service has always been a top concern at the BWL, and we agree that duties of the Director of Government Relations and Community Services should report directly to the General Manager.
80	Lead: J. Peter Lark	Restructure its organizational chart so that the positions of Strategic Planning, Information Technology, and Operations direct reporting to the General Manager.	Agreed. The BWL will realign reporting resulting in more direct reports to the General Manager. This will include creation of a new Administrative position responsible for finance, accounting, human resources and other administrative function, as well as operational Directors reporting directly to the General Manager.
81	Lead: J. Peter Lark	Hold an Annual Meeting of Stakeholders, with explicit invitations and opportunities for public debate on innovation and strategy.	Agreed. The BWL will schedule and conduct an annual stakeholder meeting on innovation and strategy for the third quarter FY15.
82	Lead: Susan Devon	Implement a utility-wide quality assurance plan. The testimony on vegetation management (that they looked at bills submitted by contractor monthly, and only now are adding a competitor and checking performance after trimming) suggests the lack of a comprehensive quality assurance plan.	Agreed. The BWL will adopt a utility wide quality assurance plan. The BWL has adopted a plan by which all trimming is inspected. The BWL has also posted the phone number of its supervisor of vegetation management so customers with questions and concerns can contact the supervisor directly. In addition, BWL project managers are responsible for quality assurance on capital and maintenance projects involving contract services. In addition, the BWL maintains an internal control unit to assure that internal procedures are followed throughout the BWL.
83	Lead: Dave Bolan	Consider revision of the 54 Recommendations, using the SMART analysis to include specific metrics, including the tasks to be performed, the directorate or section within BWL charged with performance and the time need for accomplishment.	Agreed. Each of the 54 recommendations has a director level or above responsible for its completion and has completion times and major tasks identified.
84	Lead: J. Peter Lark	Require staff reports monthly to the Board of Commissioners on specific actions that have been taken on all of the 54 recommendations made in the Ice Storm Outage Report and that the BWL post those reports on its website for the next 18-24 months.	Agreed. This recommendation is already being followed.

Michigan Public Service Commission (MPSC)
Review and Recommendations for Internal and CRT Audits

Item #	Division Lead	Recommendation	BWL Division Response
I.	Executive Management	The BWL's internal report and 54 actions contain numerous aspiring phrases such as: plan to update, are in the process of implementing, will consider, will work to develop, will expand testing, is investigating, will solicit, will work with, will make part of, will aggressively pursue, etc. The MPSC recommends the BWL create a standing committee that would track the implementation of all recommendations and create a transparent process for reporting progress to the Board and the City of Lansing.	For Board of Commissioners
II.	N/A		
III.	N/A		
IV.	Executive Management		
V.	City Government	The MPSC recommends that the Mayor of the City of Lansing, as the appointing authority to the Board, should appoint new member(s) with expertise related to the duties of the BWL.	For City of Lansing
VI.		In addition to adopting the recommendations of the CRT, the MPSC makes the following recommendations:	
1		Require specific customer service metrics as part of the BWL's Quality of Service best practices. The MPSC also recommends the BWL institute a billing credit.	Agreed. The BWL currently monitors and reports the following customers service metrics: percentage of meters read, call answer time, new service installations time, and number of calls handled per Customer Service Representative per hour. The BWL will review additional service quality metrics and determine whether to adopt additional metrics by August 31, 2014. The BWL has instituted a billing credit for the December ice storm.
2	Lead: Dave Bolan	Analyze and determine if the BWL's current budget and expenditures on vegetation management and maintenance of the distribution and transmission system are adequate to continue to provide safe and reliable service.	Please see response to CRT #36.

3	Lead: Dave Bolan	Analyze the reliability measurements of System Average Interruption Duration Index (SAIDI), System Average Interruption Frequency Index (SAIFI) and Customer Average Interruption Duration Index (CAIDI) on a circuit basis and expand the reporting of these indices to include each of the individual municipalities served by the BWL.	Agreed. The BWL currently utilizes the following distribution reliability measures: SAIDI, CAIDI, SAIFI, and MAIFI. The BWL will determine the feasibility of performing this analysis on a circuit basis by September 1, 2014. If this is not feasible, the BWL will make this a requirement of an OMS upgrade or replacement. Since circuits cross city and township boundaries, separate reporting by municipality may not be feasible.
4	Lead: Dave Bolan	Develop metrics that allow the BWL to analyze the performance of all reliability investments.	Agreed. The BWL will study available metrics and the feasibility of developing those metrics, This will be done in conjunction with developing an annual report for # 5.
5	Lead: Dave Bolan	Develop an annual reliability report that can be publicly available.	Agreed. The BWL will develop a report by the end of FY15.
6	Lead: Dave Bolan	Develop an annual reliability spending report that focuses on current and future reliability project spending and analyzes customer benefits and the overall effectiveness of reliability projects.	Agreed. This will be included in the report to be developed pursuant to #5.
7	Board of Commissioners	Adopt Service and Reliability Standards similar to those ordered by the Commission in Case No. U-12270 (R 460.732), and include a customer catastrophic outage credit (R 460-744 - R 460.746), as well as comparable rules to the Unacceptable Levels of Performance for Electric Distribution Systems by regulated utilities (R 460.721 - R 460.724).	Please see Responses to CRT 71, 73, 74, and 76.
8	Lead: Stephen Serkaian Support: Calvin Jones	Develop a Communication Plan, as part of an overall emergency operations plan, aligning with industry best practices for customer service obligations for major service outage responses and during restoration periods.	Please see response to CRT #16.
9	Lead: Calvin Jones Support: Bruce Cook	Provide consumer education material through multiple media so that customers may be prepared to handle outages including free outreach to educate the public on electric line safety, preparation for storm events, and who to contact in the event of an outage.	Please see response to CRT #58. The BWL routinely educates its customers regarding lines down and other safety issues and storm outage information through its <i>Connections</i> newsletter, its website, GRCSO outreach activities, through press releases, and social media.
10	Lead: Bruce Cook	Maintain a single customer phone number for all customer inquiries.	The BWL maintains and communicates one number for outage related inquiries. During an outage event, all customers calls are routed to one number through the BWL IVR.
11	Lead: Bruce Cook	Identify the account holders who are seniors and maintain a database of facilities servicing vulnerable populations.	Please see responses CRT #'s 54 and 55.
12	Executive Management	Provide training to the Board and identify resources and opportunities for Board members to gain experience and knowledge that will allow for greater control of current and emerging issues.	Agreed. The BWL will identify and offer annual training to Board members in addition to current training opportunities available through APPA.

13	Lead: Emergency Manager	Expand emergency training and exercise programs to include the Board so they are educated on the BWL's electric system infrastructure and emergency operations plan.	Please see response to CRT #22.
14	Lead: Dave Bolan	Train and educate BWL staff so that experienced and knowledgeable staff can fill back-up roles in the event of an outage or energy emergency.	Agreed. The BWL currently has staff with secondary roles to support operations staff and customer service staff. However, the BWL will review its secondary staff needs, identify staff to fill additional roles that may be needed, and schedule training for secondary role staff by November 30, 2014.
15	Lead: Calvin Jones	Consider use of the Local Energy Assistance Program (LEAP) process to serve as the conduit for establishing private-public partnerships focused on improving community resiliency to a prolonged energy disruption. The CRT was explicit in recommending that the BWL develop an emergency operations plan in the context of a regional plan. This would satisfy that suggestion.	Agreed. Please see responses to CRT #'s 10, 11, 12, and 13. The BWL pledges to cooperate with local units of government in a regional plan, whether local units of government adopt the LEAP process or an alternative.
16	Lead: Dave Bolan Support: Emergency Manager	Work in conjunction with the Michigan Municipal Electric Association (MMEA) to share the lessons learned and best practices with other municipal utilities within the state in an effort to improve the resiliency and outage response of all municipal utilities in Michigan.	Agreed. This has already begun and will be complete by November 30, 2014.
17		Voluntarily report to MPSC Staff when outages affect more than 10 percent of its customers, when a significant event affects the operation of its system, or when there is loss of power to a critical facility or critical customer.	Agreed. The BWL will share its reliability report prepared in response to MPSC #5 with the MPSC annually.
18	Calvin Jones	Keep the BWL Board and Lansing City Council continually informed on mutual assistance agreements should any contracts expire or have cause to be amended.	Agreed. The BWL's reliability report prepared in response to MPSC #5 will include any significant changes to mutual assistance contracts that may impact the BWL's restoration plan. This will be provided to the Board and City Council.
19	Executive Management	Perform its own action items 10 through 15 from the BWL December 2013 Ice Storm Outage Report regarding spotters and provide frequent update reports to the BWL Board and Lansing City Council.	Agreed. Numbers 11, 12, and 15 have been completed. Please see responses to CRT #'s 24, 25, and 26 for number 10. Number 13 and 14 will be completed by August 9 and June 30 respectively.
20	Lead: Dave Bolan	Provide spotter training at least two times per year at a very minimum, once in the spring and once in the fall for respective storm events.	Agreed.
21	Lead: Dave Bolan	Survey several Michigan utilities to determine the industry best practice regarding the BWL "bird dogs" assisting mutual assistance crews.	Agreed.
22	Lead: Nick Burwell Support: Emergency Manager	Integrate the BWL's Outage Management System (OMS) into an Emergency Operation Plan and test the system to its maximum capacity as recommended by the CRT.	Agreed.

23	Lead: Nick Burwell Support: Emergency Manager	Create a contingency process that will provide guidance to BWL staff in the event the OMS is not operational during an outage or catastrophic event.	Agreed.
24	Lead: Emergency Manager	Develop a procedure to collect system outage data during and post storm events for future reliability analysis.	Please see response to CRT #'s 32 and 33
25	Lead: Dave Bolan	Continue a rigorous tree trimming program and develop tree trimming practices that include overhead branch removal and hazardous tree removal.	Please see response to CRT # 36
26	Lead: Dave Bolan	Develop inspection procedures to ensure that companies who lease space on poles are clearing around communication lines.	Agreed. Third party contracts require attachers to trim around their lines. In the event they do not trim and vegetation poses a threat to BWL property, the BWL can perform the trimming and pass the cost on to the attacher.
27	Lead: Dave Bolan	Develop a comprehensive and transparent inspection and preventive maintenance plan that includes all equipment critical for maintaining system reliability.	Please see response to CRT #'s 39 and 40.
28	Lead: Dave Bolan	Study all grid modernization and two-way communication technologies to develop a capital investment plan that maximizes reliability and customer benefit.	Please see response to CRT #45.
29	Lead: Dave Bolan	Continue to invest in assets that increase the overall strength and resiliency of the electric system when replacing assets that are at the end of their useful life.	Please see responses to CRT #'s 39 and 45.
30	Lead: Dave Bolan	Study its poorest performing distribution power lines to determine the costs and benefits of undergrounding such lines as compared to other options aimed at increasing reliability.	Agreed. This will be completed by the end of FY15