

## AGENDA

### COMMITTEE OF THE WHOLE MEETING

September 9, 2014

5:30 P.M. – 1201 S. Washington Ave.

REO Town Depot

Call to Order

Roll Call

Public Comments on Agenda Items

1. Committee of the Whole Meeting Minutes of 8/19/14
2. Regional Customer Input (**INFORMATION ONLY**)
3. CRT/PSC Update
4. Epic/MRA Poll
5. Tree Trimming Update (**INFORMATION ONLY**)
6. Rate Presentation

Adjourn

## COMMITTEE OF THE WHOLE

August 19, 2014

The Committee of the Whole of the Lansing Board of Water and Light met at the BWL Headquarters-REO Town Depot located at 1201 S. Washington Ave., Lansing, MI, at 5:30 p.m. on Tuesday, August 19, 2014.

Committee of the Whole (COW) Chair Margaret Bossenbery called the meeting to order and asked the Corporate Secretary to call the roll.

Present: Commissioners Dennis M. Louney, Margaret Bossenbery, Tony Mullen, David Price, Cynthia Ward and Sandra Zerkle.

Absent: Commissioners Anthony McCloud and Tracy Thomas.

### Public Comments

None

### Approval of Minutes

**Motion** by Commissioner Price, Seconded by Commissioner McCloud to approve the Committee of the Whole meeting minutes of June 10, 2014.

**Action:** Motion Carried

### Regional Customer Input

Committee of the Whole Chair Bossenbery asked if there were any representatives from our regional customers or municipalities that might be here and would like to address the Board? Committee of the Whole Chair Bossenbery stated that regional municipalities were invited to be a part of this meeting to address any concerns that they may have. She said municipalities will continue to be invited and this section of the agenda will continue to be an open item on the agenda. There were no representatives present.

### CRT/MPS Update

General Manager Lark provided an update on the Community Review Team's (CRT) remaining recommendations. Mr. Lark stated that the green writing indicated the completed recommendations/tasks that have been implemented since the last update. (See Chart below)

Item #	Division	CRT Recommendation	BWL Division Response
1	Lead: Emergency Operations Director 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.	Update the Critical Facilities Inventory for both electric and water services by August 31, 2014 Secure critical infrastructure agreements with local EOC's by September 30, 2014 within <b>90 days of Emergency Director hire</b> update inventory and share with local EOC's no less frequently than annually by 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.	See CRT #1 for completion dates to assist local governments in identifying Special Needs facilities

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.	Complete survey of critical facilities for combined heat and power opportunities and distributed generation by March 31, 2015 Provide technical assistance in determining the feasibility of implementation of projects, including purchase power agreements with likely candidates May 31, 2015 Expand distributed solar energy program by August 1, 2014, Completed Continue grid sectionalizing investments, Completed
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.	See CRT #3 for estimated completion dates
5		Recognize its role to assist Regional, City and Township Emergency Management in disaster response by implementing all of the following:	
b	Lead: Emergency Operations Director Support: Dave Bolan and Dick Peffley	Participate in all EM exercises sponsored by any units of government representing its customer base	Emergency Operations Director will survey local EOC's for scheduled EM exercises within 60 days of hire. Emergency Operations Director will schedule BWL participation in local EM exercises as an ongoing basis.
c	Lead: Emergency Operations Director 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.	The BWL currently has the following ICS trained employees: Introduction to Incident Command: 48 ICS 200 ICS for Single Resources and Initial Action Incidents: 29 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: 26 IS: 800 National Response Framework, An Introduction: 1 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	BWL's Emergency Operations Director will be tasked with participating and coordinating BWL participation with units of government in all after action reviews, including exercises, major outages, disasters and emergencies.

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	BWL's Emergency Operations Director and GRCS staff will meet with first responders from throughout its service territory by the end of the third quarter FY15 to discuss emergency plans and responder roles. This recommendation will be an ongoing responsibility of the Emergency Operations Director.
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.	Consolidation of BWL Emergency Plans <b>within 120 days of Emergency Director hire.</b> Coordination BWL plan with local or regional plans <b>within 180 days of Emergency Director hire</b> and on an ongoing basis as updates are adopted. Coordination of BWL's participation in City or regional exercises ongoing.
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.	Conduct emergency management training for all Managers and staff with emergency responsibilities, with initial training completed <b>within 120 days of Emergency Director hire.</b> Conduct and coordinate emergency training with other local or regional emergency exercises on an ongoing basis.
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.	Assist and participate with local officials and others on a regional planning effort, coordinating as appropriate with the State Police EMHSD District 1 Coordinator. Coordinate BWL's emergency plans with local EOC's and participate with local EOC's in regional planning and training on ongoing basis.
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.	Coordinate development of a business continuity plan as part of the BWL's EOP <b>within 270 days of Emergency Director hire.</b>
10	Lead: Emergency Operations Director Support: Dave Bolan and Dick Peffley	CRT: 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)	Consolidate BWL's emergency plans into a single BWL EOP <b>within 120 days of Emergency Director hire</b> per CRT#6 above. Coordinating the BWL plan with local or regional plans <b>within 180 days of Emergency Director hire</b> and on an ongoing basis as updates are 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.	Coordinate the BWL Emergency Plan with local governments and a Regional Emergency Operations plan; coordinate the BWL plan with local units of government by <b>within 180 days of Emergency Director hire.</b>
13	Lead: Bob Perialas 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.	<b>Identify and establish contact with community groups and organizations, June 1 Completed Consolidate BWL resources and services to provide organizations, November 30, 2014 Provide resources, adopt as practices and procedures Encourage and participate community coalition, adopt as practices and procedures</b>
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.	Provide BWL communication, GRCSD staff, and leadership with NIMS training. Annual update training for communications staff on ongoing basis. BWL's communications staff and leadership team will participate in local and regional emergency exercises on an ongoing basis.
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. PSC: #8, develop communications plan	Review and determine if updates to crisis communications plans are needed by August 31, 2014. 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.	Consolidating BWL emergency plans including crisis communications plan as an annex. Provide emergency communications staff with NIMS training by November 1, 2014, and at least one staff member will complete training for qualification through NIMS protocols.
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).	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.	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
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. PSC: #13, expand training and exercise programs to Board members	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.	Plan and coordinate BWL participation in full scale regional training exercises.
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
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. PSC #23, contingency plan for OMS	Test BWL's disaster recovery process by August 1, 2014. Documentation of backup system by December 31, 2014.
33	Lead: Emergency Operations Director 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. PSC #24, collect and retain data during and after storm events	Develop and implement records retention requirements in emergency plans within 120 days of Emergency Director hire.
34		Information to be retained should include:	

a	Lead: Emergency Operations Director 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 #33.
b	Lead: Emergency Operations Director Support: Dave Bolan and Dick Peffley	A full log of output, as in #1 above.	Please see response to CRT #33.
c	Lead: Emergency Operations Director 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 #33.
d	Lead: Emergency Operations Director Support: Dave Bolan and Dick Peffley	Full log of personnel engaged in restoration activities.	Please see response to CRT #33.
e	Lead: Emergency Operations Director 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 #33.
f	Lead: Emergency Operations Director 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 #33.
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.	Proposal reviews and contracts completed by August 31, 2014
42	Lead: Calvin Jones	Establish a process of long-term scheduling and annual work coordination in conjunction with each of its host communities.	As practices and procedures, meet annually with local governments to inform and coordinate scheduling of major infrastructure projects. Meetings will be completed by end of 3rd quarter FY15.
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.	Determine is breakaway service drops meet BWL safety, performance, and cost requirements by May 31, 2015. 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 #44.
49c	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. PSC #30, Study worst performing circuits and cost benefit of undergrounding service	Upgrades to BWL's high voltage transmission and primary systems underway and ongoing. Comprehensive long-term T& D plan, including secondary system, to be completed by 2017. Collaborate with local units of government on secondary system upgrades, see CRT #42.
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.	As part of practices and procedures this will be included in annual meetings with local governments. First meetings will be completed by end of 3rd quarter FY15.
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 #44.
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. PSC # 11, data base of vulnerable populations and service response facilities	Distribute consent forms to share medical alert customers and seniors residences with emergency response personnel for the purpose of wellness checks by August 1, 2014. Completed. Implement protocols for sharing information with local governments by end of second quarter FY15
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. PSC # 11, data base of vulnerable populations and service response facilities	Please see CRT # 56



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 56 and 57.
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 56 and 57.
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: PSC #'s 9 consumer education regarding outages and outreach to community organizations to build resiliency	Identify and establish contact with community groups and organizations, June 1 Completed Consolidate BWL resources and services to provide, November 30, 2014 Provide resources, adopt as practices and procedures Encourage and participate community coalition, adopt as practices and procedures
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;	The BWL's Emergency Operations Director will coordinate the BWL's emergency plan with the City within 180 days of hire and will be the primary liaison with the City and local communities regarding the BWL's emergency plan.
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;	Conduct risk reduction technology forum by end of third quarter of FY15.
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	Please see response to CRT # 60
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 #60.
61	Lead: George Stojic	Include regional resiliency, including energy self-reliance, as a strategic goal	Part of ongoing planning and investment program. See also CRT #3.
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 #61.
63	LBWL Board of Commissioners	Hire an "operational auditor" to conduct annual performance audits of the BWL operations and planning;	

64	LBWL Board of Commissioners	Establish a standing committee for review of, and contract with outside expertise for, an annual operational audit.	
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.	
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.	
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;	
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.	
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.	
70	LBWL Board of Commissioners	Create and drive the system for implementation of the Internal Report and the CRT Report.	
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.	
73	Lead: Bruce Cook	Customer call answer time – rule 460.724 (pg. 29 of MSPC staff report) PSC #7, customer standards	Estimated time to comply with this standard is June 1, 2015.
74	Lead: Calvin Jones	Community outreach activities (no rule – but see comparison pg. 32 of MPSC staff report)	Please see response to CRT # 60. GRCSO department will also survey utilities to identify outreach programs adopted for major outages by end of second quarter FY15
75	Lead: Bruce Cook	Blockage time of customer ability to report outage – (reference to rule at pgs. 32-33 of MPSC staff report) PSC #7, customer standards	Estimated time to comply with this standard is June 1, 2015. Agreed

81	Lead: J. Peter Lark	Hold an Annual Meeting of Stakeholders, with explicit invitations and opportunities for public debate on innovation and strategy.	Conduct an annual stakeholder meeting on innovation and strategy for end of third quarter FY15.
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General Manager Lark also provided an update on the Michigan Public Service's (MPS) remaining recommendations. The yellow writing indicates the completed/task that have been implemented since the last update. (See Chart below)

Item #	Division	MPSC Remaining 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.	Board of Commissioners
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.	City of Lansing
VI.		In addition to adopting the recommendations of the CRT, the MPSC makes the following recommendations:	
MPSC 1	BRUCE COOK	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.	Estimated completion date August 31, 2014
MPSC 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.	Estimated completion date September 1, 2014
MPSC 4	Lead: Dave Bolan	Develop metrics that allow the BWL to analyze the performance of all reliability investments.	MPSC #5
MPSC 5	Lead: Dave Bolan	Develop an annual reliability report that can be publicly available.	Estimated completion date end of FY15
MPSC 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.	MPSC #5
MPSC 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.	Training to be conducted FY15

MPSC 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.	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.
MPSC 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.	MPSC #5
MPSC 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.	MPSC #5
MPSC 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.	This will be completed by the end of FY15

Item #	Division	BWL 54 Remaining Action Item	BWL Division Response
BWL 1	Emergency Manager	The BWL will include its distribution plan in its annual table top tests designed to stress its emergency response and will use the results to continually improve its emergency plans	Expected completion date 10/16/14
BWL 8	Dave Bolan	The BWL will begin to use multiple tree trimming contractors and assign work to contractors based on past performance. The contractor with the best record of performance will get a larger portion of the work. Recently, the BWL temporarily increased the number of tree trimming crews under contract to eighteen.	Original expected completion date 5/16/14 rescheduled to 8/29/14 due to contractors need to develop deployment.
BWL 10	Dave Bolan	The BWL is in the process of carefully reviewing spotter duty during the ice storm and determining how many additional trained spotters would be needed to efficiently secure down lines and provide timely damage assessment during an event with the destructive impact of the ice storm. Based on this analysis, the BWL will survey its staff for additional personnel who would be suitable for spotter duty and train personnel for both spotter and damage assessment duty.	Training scheduled for November 30, 2014
BWL 17	Dave Bolan	The BWL is in the process of hiring 3 additional line workers and an additional dispatcher to supplement its workforce and to help manage crews during the restoration process.	2 of 3 additional line workers hired along with dispatcher. Third line worker to transfer from production by end of second quarter FY15.
BWL 19	Dave Bolan and Emergency Manager	The BWL does update its critical and public safety lists periodically to ensure that it is up to date and complete. The BWL will share its overall restoration plans with local public officials so that they can be kept up to date on the BWL's restoration plans. If another catastrophic storm does occur, local officials will be better able to respond to citizen inquiries regarding the restoration progress.	T&D plans updated 6/30/14 Critical facilities list updated 8/29/14. Consolidation of BWL emergency plans within 120 days of Emergency Director hire. Coordination of BWL consolidated plan with local officials expected to be completed within 180 days of Emergency Director hire.

BWL 24	Dave Bolan	The BWL is moving forward with a project to implement smart grid and smart meter technology, which will allow it to identify individual customer outages. It will also develop a policy that will allow customers to “opt out” of smart meter use. c. customer communications:	Scheduled and budgeted for FY15 this will be a multi-year project
BWL 32	Nick Burwell	The BWL is working with the 877 vendor to provide additional methods for customers to be identified or matched when calling in to report an outage. This will include using the last digits of an account number or social security number.	Scheduled to be completed November 1, 2014
BWL 34	Nick Burwell	The BWL has added text outage reporting to the 877 system to offer customers another method for reporting outages.	Expected completion date rescheduled to 12/1/14. Need to register and comply with cell providers for standards and SMS code.
BWL 44	Bruce Cook	The BWL will work with customers and local officials to determine how to make local officials aware of seniors, customers with medical alerts, and other vulnerable populations during extended outages.	Expected completion date September 30, 2014.

Mr. Lark stated that we do not have an Emergency Manager yet, but have already done a lot of the training that is required by the Emergency Manager and we have more than doubled the number of employees who have taken basic incident command assistance training, sometimes called ICS. Training is progressing for see spotters and we now have 299 spotter roles filled. We have also expanded our internet length, which allow 200 additional phone lines. We have established and tested an external email system in case our own internet capabilities are interrupted by an emergency and we have also successfully again tested our OMS disaster recovery procedures.

General Manager Lark stated some of the recommendations do not have specific completion dates and are ongoing. For example, one of the BWL recommendations was to adopt a set of triggers that assign a resource mobilization response depending on a storms excepted severity. As part of the emergency plan a trigger system has been implemented. Triggers are a rating system 1-4 for storms and depending on how elevated the storm is, with 4 being the most severe, there is a set of procedures established and put in place to be followed with each level of storm designation. (Completed/ongoing recommendations chart attached at the end of minutes)

General Manager Lark stated that there have been some tree trimming complaints or issues in particular in the E. Lansing area. He stated in the future there will be meetings in neighborhoods where tree trimming is scheduled to take place in an effort to explain the Board of Water & Light’s tree trimming procedures. General Manager Lark stated that it was important that the Board is aware of what is going on and explained that we are cutting to what we believe to be primary lines that carry higher voltage and secondary lines in a typical setup that carry lower voltage. We are trimming to 2 feet on the secondaries and 10 feet on the primaries and we trimming overheads. So, any branches or limbs that are over the wires we are trimming which has been our policy for some time. In some ways, we are a little more lenient than the best management practices.

Board Chair Price stated that we need to say that we are trimming to a national standard and that we are not making this up as we go along and that this is acceptable by the utilities arborists; If proof is needed, we can provide it, but we cannot make exceptions for one neighborhood and were are going abide by the national standards.

Commissioner Louney stated that the Board of Water & Light's staff does an excellent job of explaining what our standards are, however the residents of E. Lansing were not happy with our policy. He spoke about some of the issues that the residents of E. Lansing has indicated for example, lack of notification. Commissioner Louney stated that he told the residents of E. Lansing that he would bring this issue to the attention of the Board, but in the meantime wanted to suspend cutting until there was further dialogue.

General Manager Lark stated there is an email from Commissioner Louney regarding the discontinuation of tree trimming but would continue trimming unless the Board directs otherwise.

After some discussion regarding the tree trimming policies and procedures, the following motion was offered:

**Motion** by Commissioner Louney, **No Second**, to suspend tree trimming in the E. Lansing until we have meetings with key their representatives to engage in dialogue regarding this matter.

Action: Motion Died, no Second

### **Renewable Energy Update**

George Stojic, Executive Director of Strategic Planning and Development provided an update of the BWL's renewable energy program and an explanation of how the BWL's renewable options fit operational and planning needs of the BWL. He began by describing the operational and reliability needs of the BWL's electric system, including the need to follow demand as it changes.

Mr. Stojic provided an explanation of each category of renewable energy in the BWL's Renewable Energy Portfolio, how it contributes to the BWL's operational and planning needs, and those operational and reliability needs that they do not meet. The renewable options in order of presentation were landfill gas, hydroelectric, solar, and wind. He also mentioned the BWL's biomass test at the Erickson plant. Mr. Stojic concluded by stating that staff would soon be investigating additional renewable energy projects and considering their impacts on the BWL's operational and planning needs when doing so.

### **BWL Outage Map**

General Manager Lark introduced the Board of Water & Light's new Outage Center Mobile Application (App).

This App features the ability to report outages, get restoration estimates, social mediate feeds as well as Board of Water & Light contact information. General Manager Lark indicated that this App is free to download and in the Apple and Google Play stores. General Manager Lark thanked the IT Department and Amy Akers, Social Media Specialist for putting this App together. This is something that the Board can really be proud of.

### **Other**

None

### **Excused Absence**

**Motion** by Commissioner Ward, Seconded by Commissioner Price to excuse Commissioners McCloud and Thomas from tonight's meeting.

### **Public Comments**

None

### **Adjourn**

**On Motion** by Commissioner Price, Seconded by Commissioner Ward, the meeting adjourned at 6:50 p.m.

Respectfully Submitted  
Margaret Bossenbery  
Committee of the Whole

(See attachment)

### CRT Recommendations Completed or Ongoing

Item #	Division	Recommendation	Status
5a	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.	Completed
14	Lead: Stephen Serkaian 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.	Completed
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.	Completed
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. PSC: #19, additional spotters	Completed
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.	Completed
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. PSC; #'s 19 and 20, additional spotters and training	Completed
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.	Completed
29	Lead: Nick Burwell Support: Emergency Operations Director	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 PSC # 22, Integrate OMS into emergency plan and test system	Completed

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.	Completed and Ongoing
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.	Completed
34g	Lead: Emergency Operations Director 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.	Completed
34h	Lead: Emergency Operations Director 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.	Completed

Item #	Division	Recommendation	Status
34i	Lead: Emergency Operations Director 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.	Completed
35	Lead: Emergency Operations Director 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.	Completed
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. PSC #'s 2 and 25 Analyze vegetation management budget and practices	Completed
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.	Completed
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.	Completed



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. PSC #'s 27 and 29	Completed and ongoing
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. PSC #27, Develop inspection and maintenance program for critical equipment	Completed and ongoing
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. PSC # 28, study grid modernization and two-way communications technologies	Completed and ongoing
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. PSC #'s 28 & 29, grid modernization and investments to build grid resiliency	Completed and ongoing
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.	Completed and ongoing
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.	Completed and ongoing
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.	Completed and ongoing
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.	Completed

Item #	Division	Recommendation	Status
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.	
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.	Completed and ongoing
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.	Completed
53	Lead: Dave Bolan	Deploy smart meters first to those residences located on lateral circuits.	Completed and ongoing

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.	Completed
72	Lead: Dave Bolan	Setting a vegetation management schedule and budget & complying with it (pgs. 23-26 of MPSC staff report)	Completed
76	Lead: Gennie Eva	Service quality credits (rule 461.744-746, pg. 34 of MSPC staff report) PSC #7, customer standards	Completed
77	Lead: Dave Bolan	Time limits for relief of non-utility personnel guarding downed power lines	Completed
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).	Completed
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.	Completed
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.	Completed
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.	Completed
83	Lead: George Stojic	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.	Completed
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.	Completed and ongoing
		MPSC Recommendations Completed or Ongoing	
Item #	Division	Recommendation	Status
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.	Completed
10	Bruce Cook	Maintain single phone number for customer inquiries	Completed
15	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.	Completed
16	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.	Completed
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.	Completed

20	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.	Completed
21	Dave Bolan	Survey several Michigan utilities to determine the industry best practice regarding the BWL "bird dogs" assisting mutual assistance crews.	Completed
22	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.	Completed
23	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.	Completed
25	Dave Bolan	Continue a rigorous tree trimming program and develop tree trimming practices that include overhead branch removal and hazardous tree removal.	Completed
26	Dave Bolan	Develop inspection procedures to ensure that companies who lease space on poles are clearing around communication lines.	Completed
27	Dave Bolan	Develop a comprehensive and transparent inspection and preventive maintenance plan that includes all equipment critical for maintaining system reliability.	Completed and ongoing
28	Dave Bolan	Study all grid modernization and two-way communication technologies to develop a capital investment plan that maximizes reliability and customer benefit.	Completed and ongoing
29	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.	Completed and ongoing

### BWL 54 Items Completed or Ongoing

Item #	Recommendations	Status
2.	The BWL will consider implementing a set of triggers into its distribution plan.	Completed
3.	The BWL will consolidate its Transmission and its Distribution emergency response plans into one document.	Completed
4.	The BWL will investigate the benefit of collaborating with other Michigan utilities to track and estimate the impact of inclement weather.	Completed
5.	Based on the BWL's experience with the impact of the ice storm, the BWL will make use of additional secondary role employees and these roles will be discussed in subsequent sections.	Completed
6.	Most utilities have not found placing overhead lines underground to be cost effective. Instead reviewing maintenance practices and construction standards seems to be a more reasonable method for improving the resiliency of the BWL's distribution system. However, for those customers who want and are willing to pay for undergrounding existing services, the BWL will provide the service.	Completed
7.	The BWL will strictly adhere to a 5 year trimming cycle and is in the process of modifying its tree trimming standards and procedures to remove all branches located above distribution lines and better protect its lines during a major storm.	Completed
9.	The BWL will publish the contact information for its supervisor responsible for trimming scheduling so customers can contact the Manager directly with questions or complaints regarding tree trimming procedures and workmanship.	Completed
11.	The BWL will also utilize retired line workers to perform damage assessments and serve as spotters.	Completed
12.	The BWL will consider contracting with electric service firms for damage assessment services to supplement its own staff.	Completed

13.	The BWL is developing common reporting forms and methods to be used by all spotters and damage assessors and will stress the importance of adhering to these during the annual training sessions.	Completed
14.	The BWL will evaluate the use of damage predictive tools to determine if these tools could help in assessing possible damage earlier in a storm's approach.	Completed
15.	The BWL will remind customers that lines marked with red and white tape are power lines and the tape indicates that the BWL is aware that the line is down. The BWL will publish this information on its website and Customer Connections newsletter.	Completed
16.	The BWL has expanded the number of utilities and non-utility electric service contractors with which it has mutual aid agreements or service contracts. The list is shown below. Existing Agreements• Michigan Municipal Electric Association (35 Municipal Utilities)• Consumers Energy New Agreements• American Public Power Association• Asplundh• Kent Power• Hydaker-Wheatlake• FEMA Mutual Aid (Upon a Declaration of a State of Emergency) Pending Agreements• DTE Energy (Under Negotiations)These agreements both increase the number of potential crew sources and provide geographical diversity as well. For example the APPA agreement would enable the BWL to bring crews in from a number of different states. In the event of a declaration of emergency, the FEMA agreement would allow the BWL to bring in crews from nearly anywhere in the United States.	Completed
18.	With the addition of 3 line workers, an additional dispatcher, more trained spotters, and the new mutual aid agreements the BWL has tripled the number of line crews that are available for immediate deployment and can be used safely and efficiently during a major outage event.	Completed
20.	The BWL will review its storm inventory based on the recent ice storm.	Completed
21.	The BWL will investigate connecting its line truck laptops to its OMS system as a tool to assist crews with storm responses.	Completed
22.	The BWL has resolved the matters related to the OMS functionality. The conductor cuts are now operational and the OMS performs to design standards.	Completed
23.	To avoid this situation with other outage tools that may be employed in the future, the BWL will conduct annual stress tests of all its restoration tools including, but not limited to the OMS, outage call in number, Customer Service Center, and Communications plans.	Completed and ongoing
25.	The BWL is hiring additional call center staff.	Completed
26.	The BWL has implemented a process to assure call forward to the 877 number occurs during large outages. This will allow CSR and supporting staff to concentrate on line down, voice mail and other communications mediums.	Completed
27.	The BWL will trigger the IVR in the 877 system to direct non-matched callers to voicemail during major outage events.	Completed
28.	The BWL has reconfigured the Call Center to send messages in the voice mailbox to CSR's automatically.	Completed

Item #	Recommendations	Status
29.	The BWL is aggressively advertised the 877 number for outages including all available communications mediums, like magnets, social media, BWL Website, and other customer communications.	Completed
30.	During a major outage, the BWL Call Center staff will focus their efforts on responding to email, texts, Facebook, Twitter, and voicemails left on the outage reporting system with the goal of responding to storm related inquiries in a timely fashion. The BWL has expanded the number of employees in secondary storm roles to assist with these customer service functions.	Completed
31.	The BWL will ensure that the distribution plan weather forecasting and storm preparation function include employees who are directly or indirectly, through secondary roles, responsible for customer service. This, along with other changes, will assure that the BWL can respond to customer inquiries promptly.	Completed and ongoing
33.	The interface between the 877 number and the OMS has been fixed and alarms will be added on each system to alert staff of any problems in the future.	Completed
35.	The BWL is working on a method to provide quicker updating of customer data from BWL system to 877 system. This is intended to provide better matches of customers to service addresses.	Completed
36.	The BWL is working to improve its ability to automatically call back customers and provide them with updated outage information.	Completed

37.	The BWL will continue its enhancements to its phone system. The enhancements will use newer technology to increase Internet bandwidth, increase available phone lines, and make the system fully redundant across the BWL private city-wide network. This upgrade will allow the system to dynamically increase the number of available lines to the call center during a large outage, using many of them to forward calls to the 877 vendor site which is designed for large volumes.	Completed
38.	The BWL has increased the TFCC voice mailbox size to 8,000 messages and is in the process of contracting with another vendor to assist in responding to voice mailbox messages during a large outage.	Completed
39.	The BWL is investigating a separate site created just for outage information (including outage maps). This will help ensure that the BWL's outage website will be available to customers in the event that a catastrophic outage disables the BWL's main website.	Completed
40.	BWL has tested and established a redundant external email system	Completed
41.	The BWL has developed a temporary web-based outage map for its website. The BWL is also working with a local vendor for a permanent outage map linked directly to the BWL's OMS system. Phase I of the project covering functionality has been completed and development is underway. Phase I is Scheduled for completion soon.	Completed
42.	In Phase II of the project, the BWL plans to continue enhancements to all of its Information Systems that interact with customers. The next phase of the outage map product for BWL will include further interaction with our customers, allowing them to identify themselves to learn if our system shows them specifically out as well as possibly reporting an outage through the map system to our OMS system. Other enhancements and features are being evaluated.	Completed
43.	In addition to using Twitter and Facebook, the BWL is investigating the use of Nixle to communicate outage and other information to its customers.	Completed
45.	The BWL will be more proactive informing customers of where their responsibility for service ends, the service mast, and the BWL's begins.	Completed
46.	The BWL will maintain a list of qualified electricians who can repair service masts and the BWL will help customers finance the cost of mast repair by allowing customers to pay it off on their bill over a one year period without interest. A list of qualified electricians will appear on the BWL's website.	Completed
47.	During events like the ice storm, the BWL will work with local organizations to maintain warming centers in the winter and cooling centers in the summer for Lansing area residents.	Completed and ongoing
48.	As an integral part of the Lansing community, the BWL will work with other organizations to respond to crisis that may affect mid-Michigan in the future. The BWL is supporting work by The Power of We and others to help empower neighborhoods to react to any type of emergency. The BWL pledges to be a part of that coalition and play its part in protecting the Lansing community and to meet with neighborhood associations to explain the BWL storm response plans and listen to their concerns and questions.	Completed and ongoing
49.	Since ice storm outage restoration, the BWL's service territory has experienced a number of severe winter weather events, and four separate outage events ranging from 100 outages to 7,400 outages. In all of the severe weather events, the BWL has posted, on all communications channels, at least two days prior to the forecasted weather, warning customers about the impending storm and directing them to call the BWL "877" outage number if they lost power. The BWL has also continuously posted updates, cold weather safety tips, and City of Lansing updates.	Completed
<b>Item #</b>	<b>Recommendations</b>	<b>Status</b>
50.	During outages, the BWL has acknowledged the time the outage began, the number of outages, the cause of the outage, the geographic area of the outage that can be found on the outage map, the projected time of restoration, and full restoration all clear.	Completed
51.	Communication improvements have been noted on Facebook and Twitter with positive comments by our customers.	Completed

52.	The BWL has retained the communications firm of Martin Waymire to help develop a crisis communications plan based on an examination of best practices across the utility industry to make sure it has a strong crisis communications protocol in place in the very near future. Martin Waymire will also assist during emergencies if needed. In the meantime, the BWL has a working interim crisis communications plan.	Completed
53.	The BWL has also hired a social media specialist, a newly created position. The social media specialist will help develop strategies on how to best communicate with our customers over all social media channels.	Completed
54.	The BWL will provide information to state and local officials on a regular basis. During an event like the ice storm, it will assign a liaison to state and local officials to answer questions that they may have from their constituents.	Completed and ongoing

Item #	Lead	CRT Remaining Recommendation	BWL Response
1	Emergency Operations Manager	Working jointly with local emergency planners and municipal governments, update the inventory of critical facilities, as part of a Regional Emergency Operations Plan.	Update the Critical Facilities Inventory for both electric and water services by August 31, 2014 Secure critical infrastructure agreements with local EOC's by September 30, 2014 within 90 days of Emergency Director hire update inventory and share with local EOC's no less frequently than annually by end of each calendar year
2	Emergency Operations Director	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.	See CRT #1 for completion dates to assist local governments in identifying Special Needs facilities
3	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.	Complete survey of critical facilities for combined heat and power opportunities and distributed generation by March 31, 2015 Provide technical assistance in determining the feasibility of implementation of projects, including purchase power agreements with likely candidates May 31, 2015 Expand distributed solar energy program by August 1, 2014, Completed <del>Continue grid sectionalizing investments. Completed</del>
4	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.	See CRT #3 for estimated completion dates
5		Recognize its role to assist Regional, City and Township Emergency Management in disaster response by implementing all of the following:	
b	Emergency Operations Manager	Participate in all EM exercises sponsored by any units of government representing its customer base	Emergency Operations Director will survey local EOC's for scheduled EM exercises within 60 days of hire. Emergency Operations Director will schedule BWL participation in local EM exercises as an ongoing basis.
c	Emergency Operations Manager	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.	The BWL currently has the following ICS trained employees: Introduction to Incident Command: 48 ICS 200 ICS for Single Resources and Initial Action Incidents: 29 ICS 300 Intermediate ICS for Expanding Incidents: 14 ICS 400 Advanced ICS: 13 IS 6402 ICS for Executives/Senior Officials: 35 IS 700 National Incident Management System (NIMS) An Introduction: 26 IS: 800 National Response Framework, An Introduction: 12 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	Emergency Operations Manager	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	BWL's Emergency Operations Director will be tasked with participating and coordinating BWL participation with units of government in all after action reviews, including exercises, major outages, disasters and emergencies.
e	Emergency Operations Manager	Develop and maintain good working relationships with the first-responder community for all units of government representing its customer base	BWL's Emergency Operations Director and GRCS staff will meet with first responders from throughout its service territory by the end of the third quarter FY15 to discuss emergency plans and responder roles. This recommendation will be an ongoing responsibility of the Emergency Operations Director.
6	Emergency Operations Manager	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.	Consolidation of BWL Emergency Plans within 120 days of Emergency Director hire. Coordination BWL plan with local or regional plans within 180 days of Emergency Director hire and on an ongoing basis as updates are adopted. Coordination of BWL's participation in City or regional exercises ongoing.

Item #	Lead	CRT Remaining Recommendation	BWL Response
7	Emergency Operations Manager	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.	Conduct emergency management training for all Managers and staff with emergency responsibilities, with initial training completed within 120 days of Emergency Director hire. Conduct and coordinate emergency training with other local or regional emergency exercises on an ongoing basis.
8	Emergency Operations Manager	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.	Assist and participate with local officials and others on a regional planning effort, coordinating as appropriate with the State Police EMHSD District 1 Coordinator. Coordinate BWL's emergency plans with local EOC's and participate with local EOC's in regional planning and training on ongoing basis.
9	Emergency Operations Manager	Include Business Continuity Planning in its development of a comprehensive Emergency Operations Plan.	Coordinate development of a business continuity plan as part of the BWL's EOP within 270 days of Emergency Director hire.
10	Emergency Operations Manager	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)	Consolidate BWL's emergency plans into a single BWL EOP within 120 days of Emergency Director hire. Coordinating the BWL plan with local or regional plans within 180 days of Emergency Director hire and on an ongoing basis as updates are adopted.
11	Emergency Operations Manager	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	Emergency Operations Manager	Develop, in coordination with the governments representing its customer base, an Energy Annex to a Regional Emergency Operations Plan.	Coordinate the BWL Emergency Plan with local governments and a Regional Emergency Operations plan; coordinate the BWL plan with local units of government by within 180 days of Emergency Director hire.
15	Emergency Operations Manager	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.	Provide BWL communication, GRCSO staff, and leadership with NIMS training. Annual update training for communications staff on ongoing basis. BWL's communications staff and leadership team will participate in local and regional emergency exercises on an ongoing basis.
17	Emergency Operations Manager	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.	Consolidating BWL emergency plans including crisis communications plan as an annex. Provide emergency communications staff with NIMS training by November 1, 2014, and at least one staff member will complete training for qualification through NIMS protocols.
19	Emergency Operations Manager	Emergency Management Director, working with all other member communities, including Ingham, Clinton and Eaton Counties, create a regional emergency operations plan (EOP).	The BWL will participate in encouraging and developing a regional emergency operations plan.



Item #	Lead	CRT Remaining Recommendation	BWL Response
22	Emergency Operations Manager	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.	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	Emergency Operations Manager	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.	Plan and coordinate BWL participation in full scale regional training exercises.
33	Emergency Operations Manager	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.	Develop and implement records retention requirements in emergency plans within 120 days of Emergency Director hire.
34		Information to be retained should include:	
a	Emergency Operations Manager	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 #33.
b	Emergency Operations Manager	A full log of output, as in #1 above.	Please see response to CRT #33.
c	Emergency Operations Manager	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 #33.
d	Emergency Operations Manager	Full log of personnel engaged in restoration activities.	Please see response to CRT #33.
e	Emergency Operations Manager	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 #33.
f	Emergency Operations Manager	Log of field engineer actions; optimally with enough specificity to distinguish technical actions vs. administrative actions.	Please see response to CRT #33.
35	Emergency Operations Manager	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.
42	Calvin Jones	Establish a process of long-term scheduling and annual work coordination in conjunction with each of its host communities.	As practices and procedures, meet annually with local governments to inform and coordinate scheduling of major infrastructure projects. Meetings will be completed by end of 3rd quarter FY15.
44	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.	Determine if breakaway service drops meet BWL safety, performance, and cost requirements by May 31, 2015. If they meet these requirements, the BWL will begin deployment of the breakaway service drops on a replacement basis.
45	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 #44.
49c	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.	Upgrades to BWL's high voltage transmission and primary systems underway and ongoing. Comprehensive long-term T&D plan, including secondary system, to be completed by 2017. Collaborate with local units of government on secondary system upgrades, see CRT #42.
50	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.	As part of practices and procedures this will be included in annual meetings with local governments. First meetings will be completed by end of 3rd quarter FY15.
55	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 #44.
60	Calvin Jones	Create a Community Resilience Planning Coalition which would take a broad approach to building community level resilience to extreme events by:	Identify and establish contact with community groups and organizations, June 1 Consolidate BWL resources and services to provide, November 30, 2014 Provide resources, adopt as practices and procedures Encourage and participate community coalition, adopt as practices and procedures Completed

Item #	Lead	CRT Remaining Recommendation	BWL Response
a	Emergency Operations Manager	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;	The BWL's Emergency Emergency Operations Director will coordinate the BWL's emergency plan with the City within 180 days of hire and will be the primary liaison with the City and local communities regarding the BWL's emergency plan.
b	George Stojic	Providing a forum for consideration of new risk reducing technologies and design in the built environment;	Conduct risk reduction technology forum by end of third quarter of FY15.
d	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 #60.
61	George Stojic	Include regional resiliency, including energy self-reliance, as a strategic goal	Part of ongoing planning and investment program. See also CRT #3.
62	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 #61.
73	Bruce Cook	Customer call answer time – rule 460.724 (pg. 29 of MSPC staff report)	Estimated time to comply with this standard is June 1, 2015.
75	Bruce Cook	Blockage time of customer ability to report outage – (reference to rule at pgs. 32-33 of MPSC staff report)	Estimated time to comply with this standard is June 1, 2015. Agreed
81	George Stojic	Hold an Annual Meeting of Stakeholders, with explicit invitations and opportunities for public debate on innovation and strategy.	Conduct an annual stakeholder meeting on innovation and strategy fby end of third quarter FY15.

Item #	Lead	MPSC Remaining Recommendation	BWL Response
MPSC 4	Dave Bolan	Develop metrics that allow the BWL to analyze the performance of all reliability investments.	MPSC #5
MPSC 5	Dave Bolan	Develop an annual reliability report that can be publicly available.	Estimated completion date end of FY15
MPSC 6	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.	MPSC #5
MPSC 12	Emergency Operations Manager	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.	Training to be conducted FY15
MPSC 13	Emergency Operations 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.
MPSC 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.	MPSC #5
MPSC 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.	MPSC #5
MPSC 24	Emergency Operations Manager	Develop a procedure to collect system outage data during and post storm events for future reliability analysis.	Please see response to CRT # 33
MPSC 30	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.	This will be completed by the end of FY15

Item #	Lead	BWL 54 Remaining Action Item	BWL Response
BWL 17	Dave Bolan	The BWL is in the process of hiring 3 additional line workers and an additional dispatcher to supplement its workforce and to help manage crews during the restoration process.	2 of 3 additional line workers hired along with dispatcher. Third line worker to transfer from production by end of second quarter FY15.
BWL 32	Nick Burwell	The BWL is working with the 877 vendor to provide additional methods for customers to be identified or matched when calling in to report an outage. This will include using the last digits of an account number or social security number.	Scheduled to be completed November 1, 2014
BWL 34	Nick Burwell	The BWL has added text outage reporting to the 877 system to offer customers another method for reporting outages.	Expected completion date rescheduled to 12/1/14. Need to register and comply with cell providers for standards and SMS code.

## CRT Recommendations Completed or Ongoing

Item #	Lead	CRT Recommendation	Status
5a	Emergency Operations Director	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.	Completed
13	Bob Perialas	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.	Completed and Ongoing
14	Stephen Serekaian	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.	Completed
16	Stephen Serkaian	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.	Completed
20	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.	Completed
25	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.	Completed
26	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.	Completed
27	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.	Completed
28	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.	Completed
29	Nick Burwell	Integrate the OMS into an Emergency Operations Plan (EOP) which is tested to its maximum capacity <sup>68</sup> , 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	Completed
30	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.	Completed
31	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.	Completed and Ongoing
32	Bruce Cook	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.	Completed
34g	Emergency Operations Director	Log of physical access entries, either IAW or similar to NERC CIP standards for Physical Access to BES sites.	Completed

## CRT Recommendations Completed or Ongoing

Item #	Lead	CRT Recommendation	Status
34h	Emergency Operations Director	Log of all connections to the local control systems during the restoration, including full hardware/software descriptions and each connecting devices security certificate.	Completed
34i	Emergency Operations Director	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.	Completed
36	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.	Completed
37	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.	Completed
38	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.	Completed
39	Dave Bolan	Explore collaboration with other entities doing tree-trimming (City of East Lansing, Townships, Consumers Energy, DTE) in order to increase efficiencies.	Completed
40	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.	Completed and ongoing
41	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.	Completed and ongoing
43	Dave Bolan	Undertake a value engineering analysis of the potential deployment of automatic circuit interrupters in its distribution grid and implement them accordingly.	Completed and ongoing
46	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.	Completed and ongoing
47	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.	Completed and ongoing
48	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.	Completed and ongoing
49		Harden the Secondary Distribution System	
a	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.	Completed and ongoing
b	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.	Completed
51	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.	Completed and ongoing

## CRT Recommendations Completed or Ongoing

Item #	Lead	CRT Recommendation	Status
52	Dave Bolan	In the interim, ensure that it has an adequate core of spotters for restoration of the secondary distribution system following a storm.	Completed
53	Dave Bolan	Deploy smart meters first to those residences located on lateral circuits.	Completed and ongoing
54	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.	Completed
56	Bruce Cook	Develop through voluntary customer participation, and maintain, a list of all elderly customers and those with medical needs. Distribute consent forms to share medical alert customers and seniors residences with emergency response personnel for the purpose of wellness checks by August 1, 2014. Completed. Implement protocols for sharing information with local governments by end of second quarter FY15	Completed
57	Emergency Operations Director	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. PSC # 11, data base of vulnerable populations and service response facilities	Completed
58	Emergency Operations Director	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.	Completed
59	Emergency Operations Director	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.	Completed
60 c	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	Completed
72	Dave Bolan	Setting a vegetation management schedule and budget & complying with it (pgs. 23-26 of MPSC staff report)	Completed
74	Calvin Jones	Community outreach activities (no rule – but see comparison pg. 32 of MPSC staff report)	Completed and ongoing
76	Gennie Eva	Service quality credits (rule 461.744-746, pg. 34 of MSPC staff report)	Completed
77	Dave Bolan	Time limits for relief of non-utility personnel guarding downed power lines	Completed
78	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).	Completed
79	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.	Completed
80	J. Peter Lark	Restructure its organizational chart so that the positions of Strategic Planning, Information Technology, and Operations direct reporting to the General Manager.	Completed
82	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.	Completed
83	George Stojic	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.	Completed
84	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.	Completed and ongoing

## MPSC Recommendations Completed or Ongoing

Item #	Lead	MPSC Recommendation	Status
1	Bruce Cook	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.	Completed
2	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.	Completed
3	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. Completed 8/26/14	Completed
8	Stephen Serkaian	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.	Completed
9	Calvin Jones	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 #60. The BWL routinely educates its customers regarding lines down and other safety issues and storm outage information through its Connections newsletter, its website, GRCSO outreach activities, through press releases, and social media.	Completed
10	Bruce Cook	Maintain single phone number for customer inquiries	Completed
11	Bruce Cook	Identify the account holders who are seniors and maintain a database of facilities servicing vulnerable populations.	Completed
14	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. 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.	Completed and ongoing
15	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.	Completed
16	Dave Bolan	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.	Completed
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.	Completed
20	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.	Completed
21	Dave Bolan	Survey several Michigan utilities to determine the industry best practice regarding the BWL "bird dogs" assisting mutual assistance crews.	Completed
22	Nick Burwell	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.	Completed
23	Nick Burwell	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.	Completed
25	Dave Bolan	Continue a rigorous tree trimming program and develop tree trimming practices that include overhead branch removal and hazardous tree removal.	Completed
26	Dave Bolan	Develop inspection procedures to ensure that companies who lease space on poles are clearing around communication lines.	Completed
27	Dave Bolan	Develop a comprehensive and transparent inspection and preventive maintenance plan that includes all equipment critical for maintaining system reliability.	Completed and ongoing
28	Dave Bolan	Study all grid modernization and two-way communication technologies to develop a capital investment plan that maximizes reliability and customer benefit.	Completed and ongoing
29	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.	Completed and ongoing



## BWL 54 Items Completed or Ongoing

Item #	BWL 54 Items	Status
1	The BWL will include its distribution plan in its annual table top tests designed to stress its emergency response and will use the results to continually improve its emergency plans	Completed
2	The BWL will consider implementing a set of triggers into its distribution plan.	Completed
3	The BWL will consolidate its Transmission and its Distribution emergency response plans into one document.	Completed
4	The BWL will investigate the benefit of collaborating with other Michigan utilities to track and estimate the impact of inclement weather.	Completed
5	Based on the BWL's experience with the impact of the ice storm, the BWL will make use of additional secondary role employees and these roles will be discussed in subsequent sections.	Completed
6	Most utilities have not found placing overhead lines underground to be cost effective. Instead reviewing maintenance practices and construction standards seems to be a more reasonable method for improving the resiliency of the BWL's distribution system. However, for those customers who want and are willing to pay for undergrounding existing services, the BWL will provide the service	Completed
7	The BWL will strictly adhere to a 5 year trimming cycle and is in the process of modifying its tree trimming standards and procedures to remove all branches located above distribution lines and better protect its lines during a major storm.	Completed
8	The BWL will begin to use multiple tree trimming contractors and assign work to contractors based on past performance. The contractor with the best record of performance will get a larger portion of the work. Recently, the BWL temporarily increased the number of tree trimming crews under contract to eighteen. Completed: Purchasing is working to finalize the agreements with Asplundh and Alpine for tree timing services.	Completed
9	The BWL will publish the contact information for its supervisor responsible for trimming scheduling so customers can contact the Manager directly with questions or complaints regarding tree trimming procedures and workmanship.	Completed
10	The BWL is in the process of carefully reviewing spotter duty during the ice storm and determining how many additional trained spotters would be needed to efficiently secure down lines and provide timely damage assessment during an event with the destructive impact of the ice storm. Based on this analysis, the BWL will survey its staff for additional personnel who would be suitable for spotter duty and train personnel for both spotter and damage assessment duty.	Completed and ongoing
11	The BWL will also utilize retired line workers to perform damage assessments and serve as spotters.	Completed
12	The BWL will consider contracting with electric service firms for damage assessment services to supplement its own staff.	Completed
13	The BWL is developing common reporting forms and methods to be used by all spotters and damage assessors and will stress the importance of adhering to these during the annual training sessions.	Completed
14	The BWL will evaluate the use of damage predictive tools to determine if these tools could help in assessing possible damage earlier in a storm's approach.	Completed
15	The BWL will remind customers that lines marked with red and white tape are power lines and the tape indicates that the BWL is aware that the line is down. The BWL will publish this information on its website and Customer Connections newsletter.	Completed

## BWL 54 Items Completed or Ongoing

Item #	BWL 54 Items	Status
16	The BWL has expanded the number of utilities and non-utility electric service contractors with which it has mutual aid agreements or service contracts. The list is shown below. Existing Agreements• Michigan Municipal Electric Association (35 Municipal Utilities)• Consumers Energy New Agreements• American Public Power Association• Asplundh• Kent Power• Hydaker-Wheatlake• FEMA Mutual Aid (Upon a Declaration of a State of Emergency) Pending Agreements• DTE Energy (Under Negotiations)These agreements both increase the number of potential crew sources and provide geographical diversity as well. For example the APPA agreement would enable the BWL to bring crews in from a number of different states. In the event of a declaration of emergency, the FEMA agreement would allow the BWL to bring in crews from nearly anywhere in the United States.	Completed
18	With the addition of 3 line workers, an additional dispatcher, more trained spotters, and the new mutual aid agreements the BWL has tripled the number of line crews that are available for immediate deployment and can be used safely and efficiently during a major outage event.	Completed
19	The BWL does update its critical and public safety lists periodically to ensure that it is up to date and complete. The BWL will share its overall restoration plans with local public officials so that they can be kept up to date on the BWL's restoration plans. If another catastrophic storm does occur, local officials will be better able to respond to citizen inquiries regarding the restoration progress. T&D plans updated 6/30/14 Critical facilities list updated 8/26/14. Consolidation of BWL emergency plans within 120 days of Emergency Director hire. Coordination of BWL consolidated plan with local officials expected to be completed within 180	Completed
20	The BWL will review it's storm inventory based on the recent ice storm.	Completed
21	The BWL will investigate connecting its line truck laptops to its OMS system as a tool to assist crews with storm responses.	Completed
22	The BWL has resolved the matters related to the OMS functionality. The conductor cuts are now operational and the OMS performs to design standards.	Completed
23	To avoid this situation with other outage tools that may be employed in the future, the BWL will conduct annual stress tests of all its restoration tools including, but not limited to the OMS, outage call in number, Customer Service Center, and Communications plans.	Completed and ongoing
24	The BWL is moving forward with a project to implement smart grid and smart meter technology, which will allow it to identify individual customer outages. It will also develop a policy that will allow customers to "opt out" of smart meter use. c. customer communications:	Completed and ongoing
25	The BWL is hiring additional call center staff.	Completed
26	The BWL has implemented a process to assure call forward to the 877 number occurs during large outages. This will allow CSR and supporting staff to concentrate on line down, voice mail and other communications mediums.	Completed
27	The BWL will trigger the IVR in the 877 system to direct non-matched callers to voicemail during major outage events.	Completed
28	The BWL has reconfigured the Call Center to send messages in the voice mailbox to CSR's automatically.	Completed
29	The BWL is aggressively advertised the 877 number for outages including all available communications mediums, like magnets, social media, BWL Website, and other customer communications.	Completed
30	During a major outage, the BWL Call Center staff will focus their efforts on responding to email, texts, Facebook, Twitter, and voicemails left on the outage reporting system with the goal of responding to storm related inquiries in a timely fashion. The BWL has expanded the number of employees in secondary storm roles to assist with these customer service functions.	Completed

## BWL 54 Items Completed or Ongoing

Item #	BWL 54 Items	Status
31	The BWL will ensure that the distribution plan weather forecasting and storm preparation function include employees who are directly or indirectly, through secondary roles, responsible for customer service. This, along with other changes, will assure that the BWL can respond to customer inquiries promptly.	Completed and ongoing
33	The interface between the 877 number and the OMS has been fixed and alarms will be added on each system to alert staff of any problems in the future.	Completed
35	The BWL is working on a method to provide quicker updating of customer data from BWL system to 877 system. This is intended to provide better matches of customers to service addresses.	Completed
36	The BWL is working to improve its ability to automatically call back customers and provide them with updated outage information.	Completed
37	The BWL will continue its enhancements to its phone system. The enhancements will use newer technology to increase Internet bandwidth, increase available phone lines, and make the system fully redundant across the BWL private city-wide network. This upgrade will allow the system to dynamically increase the number of available lines to the call center during a large outage, using many of them to forward calls to the 877 vendor site which is designed for large volumes.	Completed
38	The BWL has increased the TFCC voice mailbox size to 8,000 messages and is in the process of contracting with another vendor to assist in responding to voice mailbox messages during a large outage.	Completed
39	The BWL is investigating a separate site created just for outage information (including outage maps). This will help ensure that the BWL's outage website will be available to customers in the event that a catastrophic outage disables the BWL's main website.	Completed
40	BWL has tested and established a redundant external email system	Completed
41	The BWL has developed a temporary web-based outage map for its website. The BWL is also working with a local vendor for a permanent outage map linked directly to the BWL's OMS system. Phase I of the project covering functionality has been completed and development is underway. Phase I is Scheduled for completion soon.	Completed
42	In Phase II of the project, the BWL plans to continue enhancements to all of its Information Systems that interact with customers. The next phase of the outage map product for BWL will include further interaction with our customers, allowing them to identify themselves to learn if our system shows them specifically out as well as possibly reporting an outage through the map system to our OMS system. Other enhancements and features are being evaluated.	Completed
43	In addition to using Twitter and Facebook, the BWL is investigating the use of Nixle to communicate outage and other information to its customers.	Completed
44	The BWL will work with customers and local officials to determine how to make local officials aware of seniors, customers with medical alerts, and other vulnerable populations during extended outages.	Completed
45	The BWL will be more proactive informing customers of where their responsibility for service ends, the service mast, and the BWL's begins.	Completed
46	The BWL will maintain a list of qualified electricians who can repair service masts and the BWL will help customers finance the cost of mast repair by allowing customers to pay it off on their bill over a one year period without interest. A list of qualified electricians will appear on the BWL's website.	Completed
47	During events like the ice storm, the BWL will work with local organizations to maintain warming centers in the winter and cooling centers in the summer for Lansing area residents.	Completed and ongoing
48	As an integral part of the Lansing community, the BWL will work with other organizations to respond to crisis that may affect mid-Michigan in the future. The BWL is supporting work by The Power of We and others to help empower neighborhoods to react to any type of emergency. The BWL pledges to be a part of that coalition and play its part in protecting the Lansing community and to meet with neighborhood associations to explain the BWL storm response plans and listen to their concerns and questions.	Completed and ongoing

## BWL 54 Items Completed or Ongoing

Item #	BWL 54 Items	Status
49	Since ice storm outage restoration, the BWL's service territory has experienced a number of severe winter weather events, and four separate outage events ranging from 100 outages to 7,400 outages. In all of the severe weather events, the BWL has posted, on all communications channels, at least two days prior to the forecasted weather, warning customers about the impending storm and directing them to call the BWL "877" outage number if they lost power. The BWL has also continuously posted updates, cold weather safety tips, and City of Lansing updates.	Completed
50	During outages, the BWL has acknowledged the time the outage began, the number of outages, the cause of the outage, the geographic area of the outage that can be found on the outage map, the <u>projected time of restoration, and full restoration all clear.</u>	Completed
51	Communication improvements have been noted on Facebook and Twitter with positive comments <u>by our customers.</u>	Completed
52	The BWL has retained the communications firm of Martin Waymire to help develop a crisis communications plan based on an examination of best practices across the utility industry to make sure it has a strong crisis communications protocol in place in the very near future. Martin Waymire will also assist during emergencies if needed. In the meantime, the BWL has a working <u>interim crisis communications plan</u>	Completed
53	The BWL has also hired a social media specialist, a newly created position. The social media specialist will help develop strategies on how to best communicate with our customers over all <u>social media channels.</u>	Completed
54	The BWL will provide information to state and local officials on a regular basis. During an event like the ice storm, it will assign a liaison to state and local officials to answer questions that they may <u>have from their constituents.</u>	Completed and ongoing

## CRT/MPSC Board of Commissioners Recommendations

Item #	Lead	Recommendation
CRT 63	LBWL Board of Commissioners	Hire an "operational auditor" to conduct annual performance audits of the BWL operations and planning;
CRT 64	LBWL Board of Commissioners	Establish a standing committee for review of, and contract with outside expertise for, an annual operational audit.
CRT 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.
CRT 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.
CRT 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;
CRT 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.
CRT 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.
CRT 70	LBWL Board of Commissioners	Create and drive the system for implementation of the Internal Report and the CRT Report.
CRT 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.
MPSC 7	LBWL 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).

## CRT/MPSC City of Lansing Recommendations

<b>Item #</b>	<b>Lead</b>	<b>Recommendation</b>
CRT 18	City Government	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
CRT 21	City Government	Consider fully integrating BWL employees into the City EM structure.
CRT 24	City Government	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.
MPSC 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.

# CRT Remaining Recommendations

Item #	Task Name	Start	Finish	Q1 '13	Q1 '14	Q1 '15	Q1 '16	Q1 '17
1	Work Jointly with local emergency planners to update Critical Facilities Inventory	Tue 2/18/14			C			
2	Assist all units of government representing its customer base with identifying special needs facilities for power restoration	Tue 2/18/14			C			
3	Assistance of micro-grid evaluation of critical facilities in service area	Tue 2/18/14			C			
4	Explore options to participate financially in implementing micro-grid at critical facilities	Tue 2/18/14			C			
5	Recognize its role to assist Regional, City and Township Emergency Management in disaster response by implementing all of the following	Tue 2/18/14			C			
5b	Participate in all EM exercises sponsored by any units of government representing its customer base	Tue 2/18/14			C			
5c	Assure that all operations employees receive basic NIMS training,	Tue 2/18/14			C			
5d	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	Tue 2/18/14			C			
5e	Develop and maintain good working relationships with the first-responder community for all units of government representing its customer base	Tue 2/18/14	Tue 3/31/15					
6	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.	Tue 2/18/14			C			
7	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 responsi	Tue 2/18/14			C			
8	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	Tue 2/18/14			C			
9	Include Business Continuity Planning in its development of a comprehensive Emergency Operations Plan.	Tue 2/18/14	Mon 3/30/15					
10	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)	Tue 2/18/14			C			
11	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.	Tue 2/18/14			C			
12	Develop, in coordination with the governments representing its customer base, an Energy Annex to a Regional Emergency Operations Plan.	Tue 2/18/14	Wed 12/31/14					
15	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 coordi	Tue 2/18/14	Fri 8/1/14					
17	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.	Tue 2/18/14	Sat 11/1/14					
19	Emergency Management Director, working with all other member communities, including Ingham, Clinton and Eaton Counties, create a regional emergency operations plan (EOP).	Tue 2/18/14	Wed 12/31/14					
22	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.	Tue 2/18/14	Tue 6/30/15					
23	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.	Tue 2/18/14	Tue 7/1/14					
33	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 I	Tue 2/18/14	Tue 6/17/14					
34	Information to be retained should include:	Tue 2/18/14	Tue 7/8/14					
a	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.	Tue 2/18/14	Fri 11/21/14					

# CRT Remaining Recommendations




Item #	Task Name	Start	Finish	Q1 '13	Q1 '14	Q1 '15	Q1 '16	Q1 '17
b	A full log of output, as in #1 above.	Tue 2/18/14	Mon 7/21/14					
c	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 resto	Tue 2/18/14	Wed 8/20/14					
d	Full log of personnel engaged in restoration activities.	Tue 2/18/14	Tue 9/23/14					
e	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.	Tue 2/18/14	Tue 6/10/14					
f	Log of field engineer actions; optimally with enough specificity to distinguish technical actions vs. administrative actions.	Tue 2/18/14	Fri 6/13/14					
35	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 compariso	Tue 2/18/14						
42	Establish a process of long-term scheduling and annual work coordination in conjunction with each of its host communities.	Tue 2/18/14						
44	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.	Tue 2/18/14	Sun 5/31/15					
45	Perform a benefit cost analysis to determine whether a proactive effort to install breakaway service drops is warranted.	Tue 2/18/14	Sun 5/31/15					
49	Harden the Secondary Distribution System							
c	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 co	Tue 2/18/14	Fri 6/30/17					
50	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 s	Tue 2/18/14						
55	Consider plans to install breakaway service drops first to those customers on lateral circuits or to special needs customers.	Tue 2/18/14	Sun 5/31/15					
60	Create a Community Resilience Planning Coalition which would take a broad approach to building community level resilience to extreme events by:	Tue 2/18/14						
a	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	Tue 2/18/14	Wed 12/31/14					
b	Providing a forum for consideration of new risk reducing technologies and design in the built environment;	Tue 2/18/14	Wed 12/31/14					
d	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.	Tue 2/18/14						
61	Include regional resiliency, including energy self-reliance, as a strategic goal	Tue 2/18/14						
62	Explore the potential for "islanding" to protect the local electrical grid, with BWL taking the lead in creating an innovative, strategic solution	Tue 2/18/14						
73	Customer call answer time – rule 460.724 (pg. 29 of MSPC staff report)	Tue 2/18/14	Mon 6/1/15					
75	Blockage time of customer ability to report outage – (reference to rule at pgs. 32-33 of MPSC staff report)	Tue 2/18/14	Mon 6/1/15					
81	Hold an Annual Meeting of Stakeholders, with explicit invitations and opportunities for public debate on innovation and strategy.	Tue 2/18/14	Wed 12/31/14					

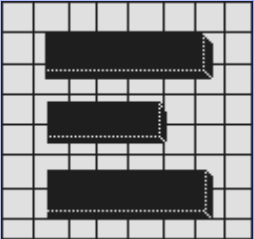


# MPSC Remaining Recommendations

Item #	Task Name	Start	Finish	%	Q4 '13	Q1 '14	Q2 '14	Q3 '14	Q4 '14	Q1 '15	Q2 '15	
4	Develop metrics that allow the BWL to analyze the performance of all reliability investments.	Tue 2/18/14	Tue 6/30/15	14%								
5	Develop an annual reliability report that can be publicly available.	Tue 2/18/14	Tue 6/30/15	15%								
6	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.	Tue 2/18/14	Tue 6/30/15	19%								
12	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.	Tue 2/18/14	Mon 6/30/14	10%								
13	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.	Tue 2/18/14	Tue 6/30/15	0%								
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.	Tue 2/18/14	Tue 6/30/15	9%								
18	Keep the BWL Board and Lansing City Council continually informed on mutual assistance agreements should any contracts expire or have cause to be amended.	Tue 2/18/14	Tue 6/30/15	0%								
24	Develop a procedure to collect system outage data during and post storm events for future reliability analysis.	Tue 2/18/14		0%								
30	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.	Tue 2/18/14	Thu 6/19/14	50%								

# BWL Outage Review 54 Items Remaining

Item #	Task Name	Start	Finish	%	Q3 '13	Q1 '14	Q3 '14
17	The BWL is in the process of hiring 3 additional line workers and an additional dispatcher to supplement its workforce and to help manage crews during the restoration process.	Tue 2/18/14	Fri 10/31/14	66%			
32	The BWL is working with the 877 vendor to provide additional methods for customers to be identified or matched when calling in to report an outage. This will include using the last digits of an account number or social security number.	Tue 3/25/14	Sat 11/1/14	75%			
34	The BWL has added text outage reporting to the 877 system to offer customers another method for reporting outages.	Thu 1/30/14	Mon 12/1/14	60%			



# **Lansing Board of Water and Light Customer Satisfaction Survey**

**Importance of actions taken/planned in response to ice storm, rating specific communications and operational actions, and approval of those actions**

**Conducted August 9-10, 2014**

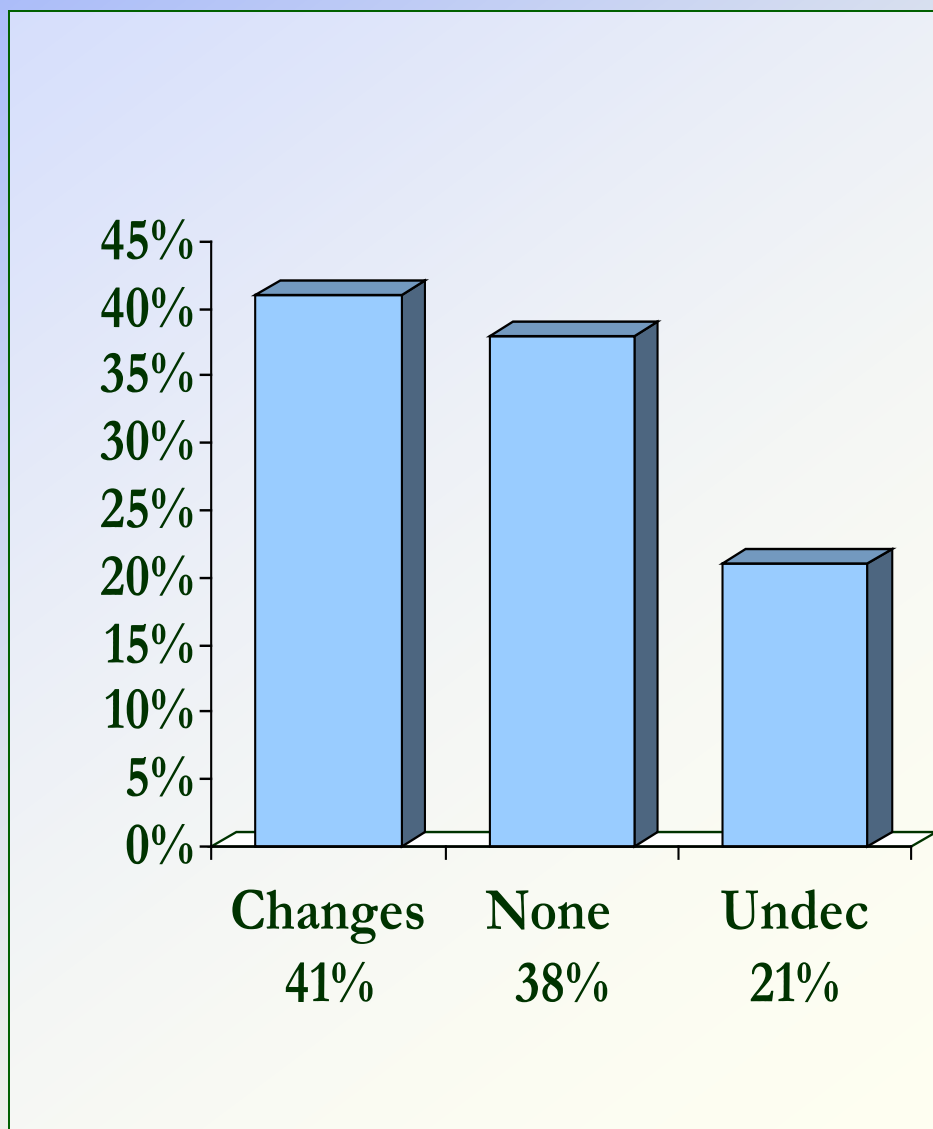
**Live telephone interviews**

**Sample size: 400**

**Error rate:  $\pm 4.9\%$**

# Has BWL already made or planned changes to respond to ice storm, or, has BWL not made any significant changes yet?

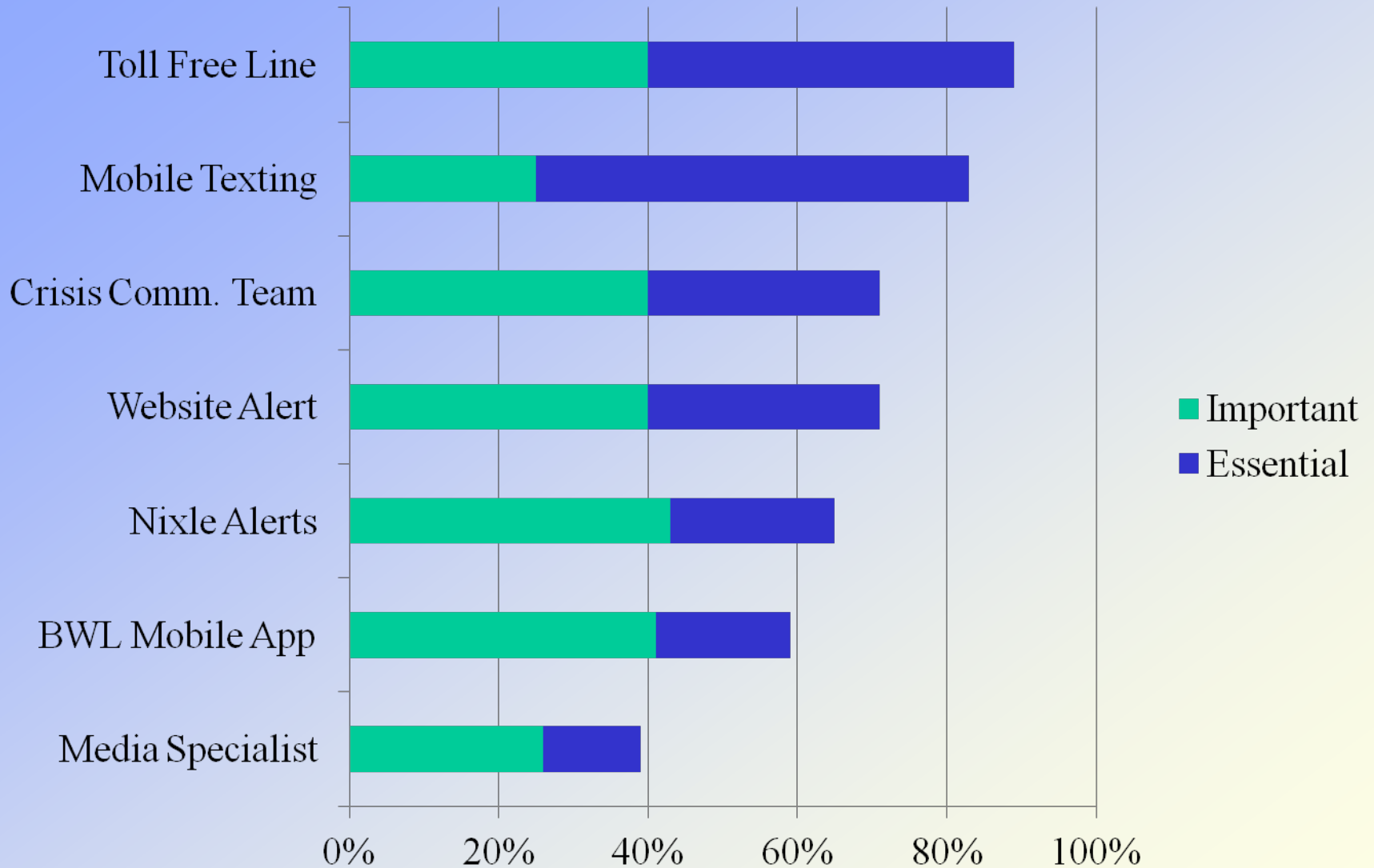
- **BWL already made or plans changes 41%**
- **BWL has not made changes yet 38%**
- **Undecided 21%**



## Strong majorities say 6 of 7 specific communications actions important

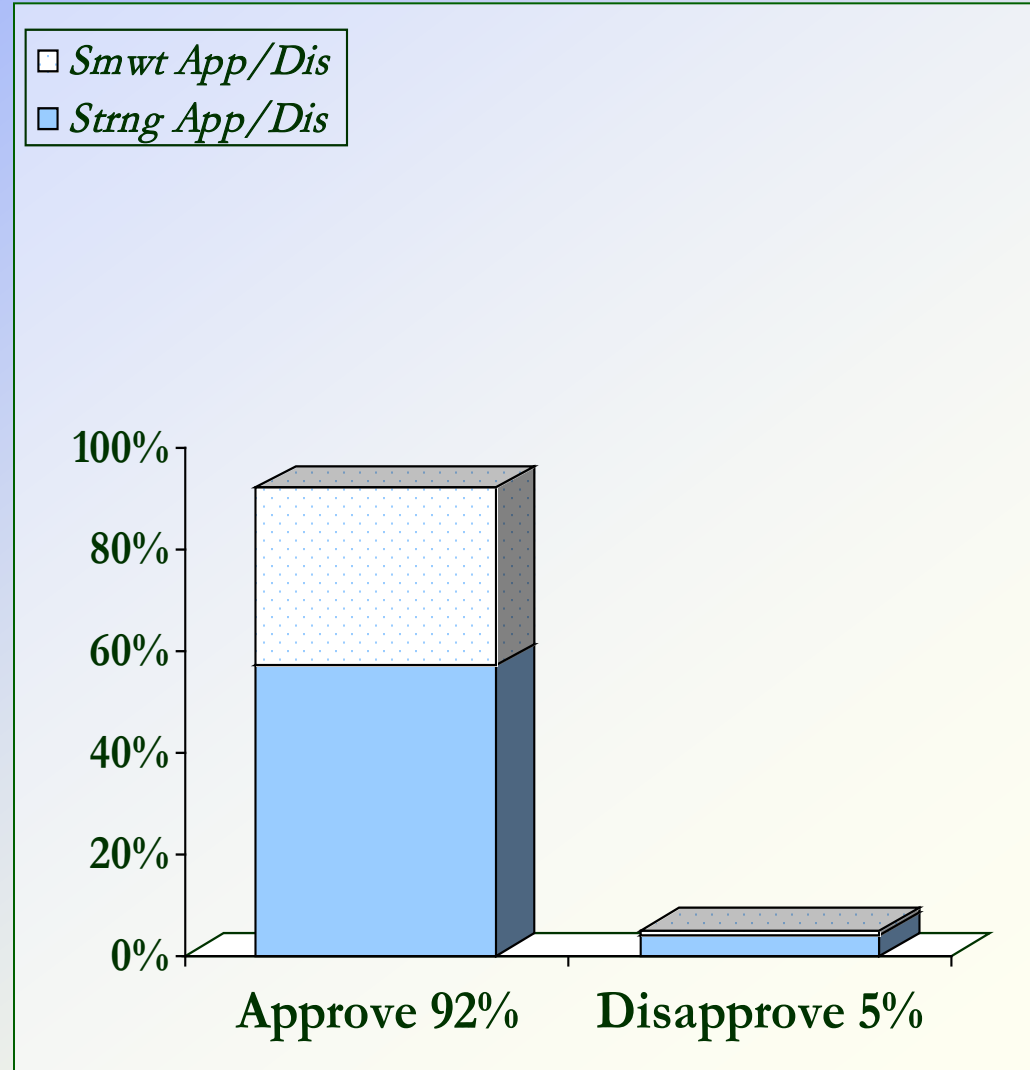
- **Fixed & tested BWL toll free line to record power outages**  
**89% Total Important (49% Essential)**
- **Mobile phone texting of outages, reports back on restoring power**  
**73% Total Important (58% Essential)**
- **Establishing a crisis communications command team**  
**71% Total Important (31% Essential)**
- **BWL added website feature to report outages and get reports back**  
**71% Total Important (31% Essential)**
- **Customers can now register for Nixle alerts on outages, reports back**  
**65% Total Important (22% Essential)**
- **Customers can download free BWL mobile app to Apple/Android**  
**59% Total Important (18% Essential)**
- **BWL created a new position and hired a social media specialist**  
**39% Total Important (13% Essential)**

# Strong majorities say 6 of 7 specific communications actions important



# More than a 9-in-10 approves of specific communications actions taken or planned – 57% strongly approve

- **Strongly approve**      **57%**
- **Smwht approve**      **35%**  
**Total APPROVE**      **92%**
  
- **Smwht disapprove**    **4%**
- **Strongly disapprove** **1%**  
**Total DISAPPOVE**    **5%**
  
- **Undecided**              **3%**

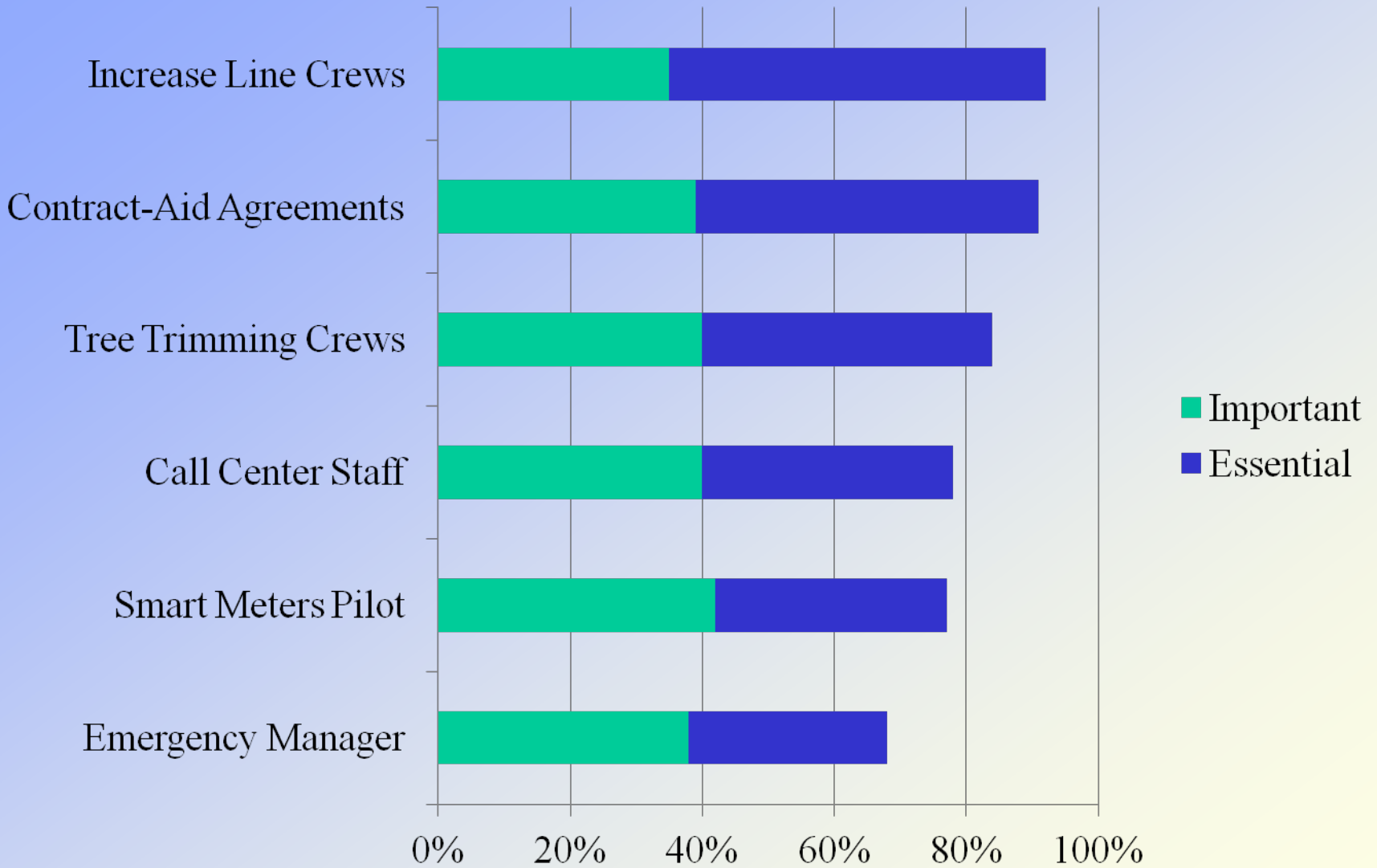


## Strong majorities say all 6 specific operational actions important

- **Dramatically increased number of line crews to restore power**  
**92% Total Important (57% Essential)**
- **BWL expanded number of contracts & mutual aid agreements for power outage assistance**  
**91% Total Important (52% Essential)**
- **More tree trimming crews added with trees trimmed every 5 years**  
**84% Total Important (44% Essential)**
- **BWL hired more call center staff to handle greater call volumes during future major outages -- contracted with 3<sup>rd</sup> party call centers**  
**78% Total Important (38% Essential)**
- **BWL launching pilot project to test smart meters to report outages**  
**77% Total Important (35% Essential)**
- **BWL hired emergency manager to coordinate restoration in crisis**  
**68% Total Important (30% Essential)**

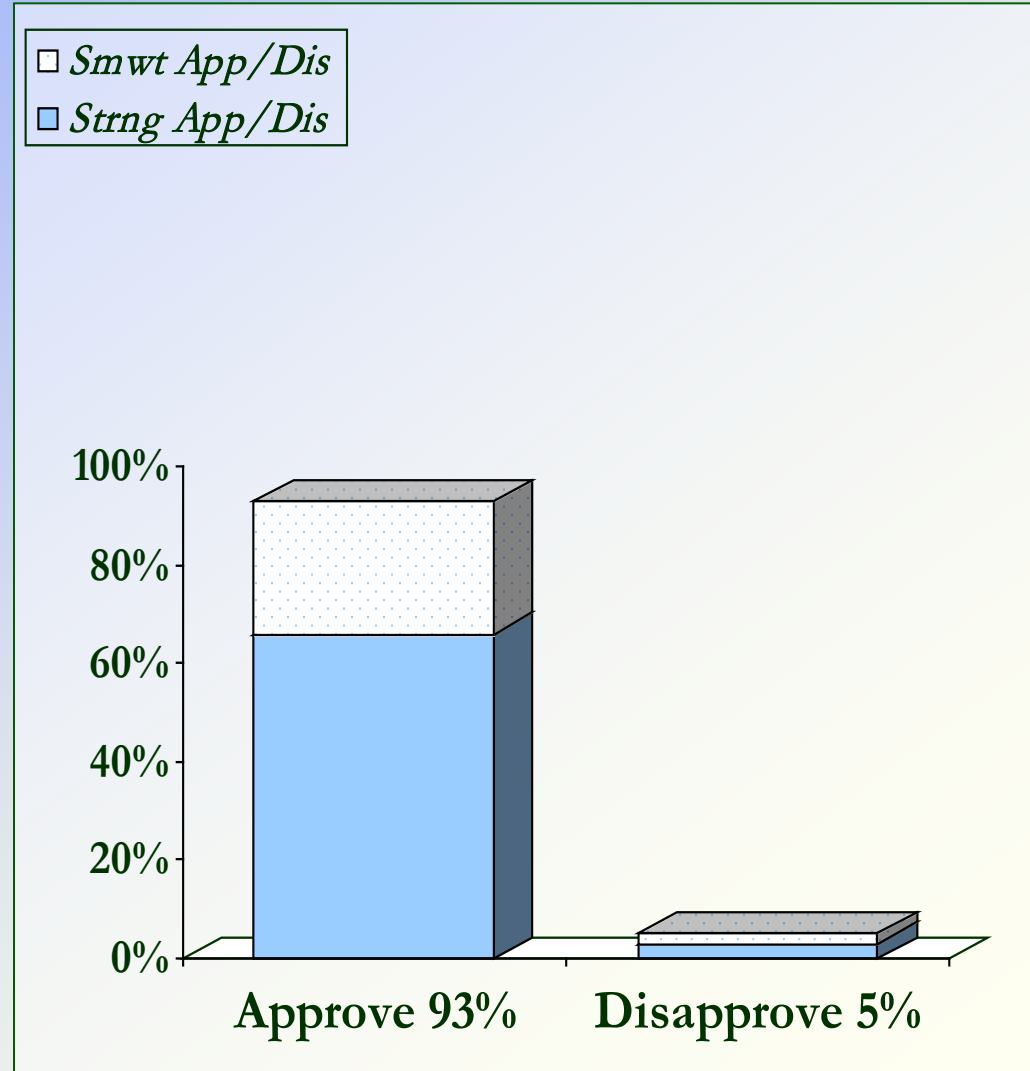


# Strong majorities say all 6 specific operational actions important



# More than a 9-in-10 also approves of specific operational actions taken or planned – 66% strongly approve

- Strongly approve 66%
- Smwht approve 27%
- **Total APPROVE 93%**
  
- Smwht disapprove 3%
- Strongly disapprove 2%
- **Total DISAPPOVE 5%**
  
- Undecided 2%

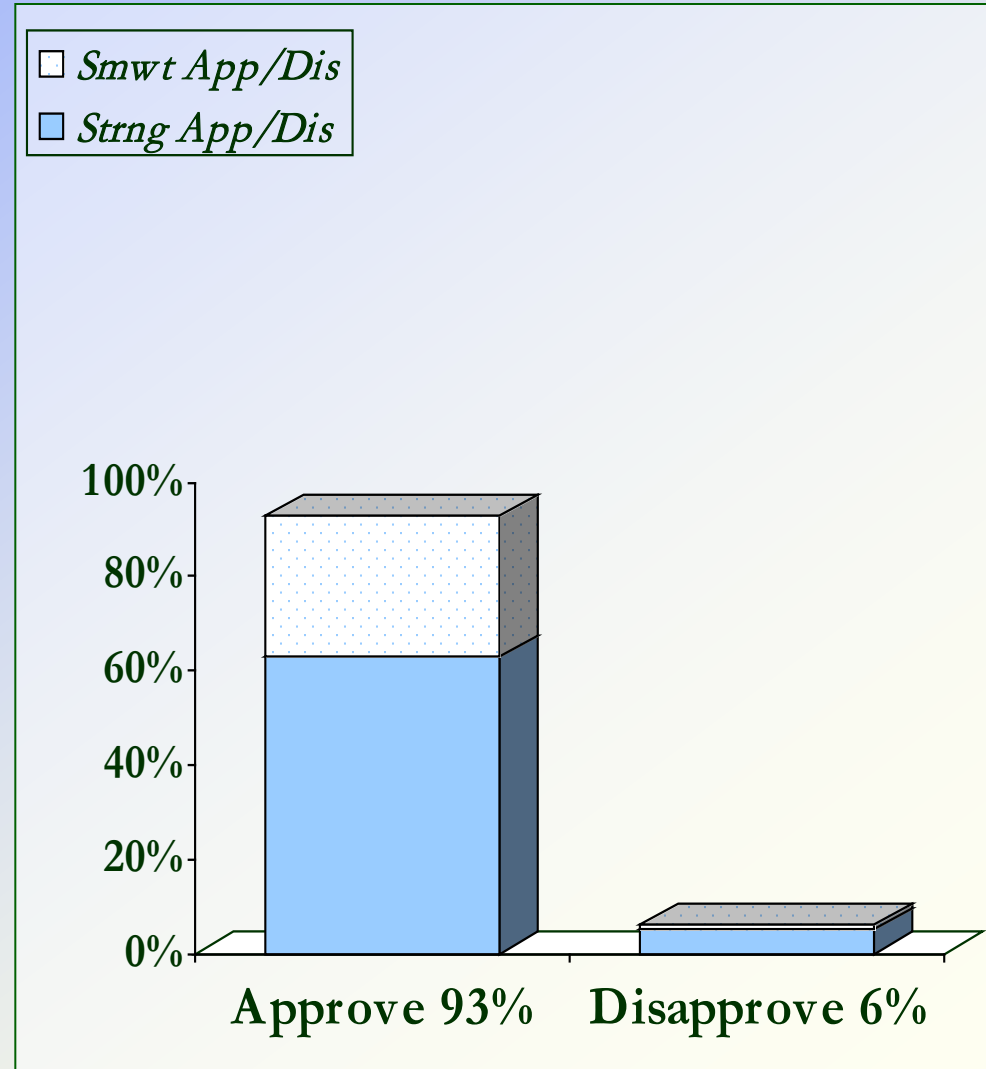


## Is BWL trimming right amount of trees, too much, or too little?

- **42%: BWL is not trimming enough tree limbs**
- **32%: BWL doing right amount of tree trimming while protecting appearance of trees**
- **10%: BWL doing too much trimming & damaging appearance of trees**
- **16%: Undecided about amount of tree trimming**

# More than 9-in-10 approves of communications AND operational changes taken/planned in response to ice storm

- Strongly approve 63%
- Smwht approve 30%
- **Total APPROVE 93%**
  
- Smwht disapprove 5%
- Strongly disapprove 1%
- **Total DISAPPOVE 6%**
  
- Undecided 1%







# Rate Recommendations For Fiscal Year 2015

Committee of the Whole Meeting  
September 9, 2014



# Organization Overview

## **Total Revenue**

FY 2015 Budget - \$369.7M

## **O&M including fuel & Depr.**

FY 2015 Budget - \$330.2M

FY 2015 Budget FTEs - 709

FY 2015 Net Income - \$2.5M  
Return - 0.3%

## **Capital Projects**

FY 2015 Budget - \$65.4M





# BWL Overview

## Electric Utility

- Total Customers Served - 95,896
- Total Generating Capacity - 600 MW
- Total Substations – 28
- Total Transmission Miles - 48
- Total Distribution Miles - 1,879
  - Overhead - 1,198
  - Underground – 681
- Assets (59%) \$450 million
- Authorized Return - 6.18% \$ 28 million
- Expected Return – 0.1% \$500,000
  - Rate Increase 7%
  - REP Surcharge -2%
  - Realized rate Increase 5%
- Annual Revenue Increase = \$16 million



# BWL Overview

## Water Utility

- Total Customers Served - 55,026
- Annual Pumpage to Mains - 7,651MG\*
- Number of Water Wells - 124
- Miles of Water Main - 794

\*One MG = 1,000,000 gallons of water

- Assets (29%) \$217 million
- Authorized Return-6.18% \$ 14 million
- Expected Return - 0.9% \$ 2 million
- Rate Increase - 9%
- Annual Revenue Increase = 3.2 million





# BWL Overview

## Steam Utility

- Total Customers Served - 185
- Mlbs. Generated - 903,716
- Miles of Steam Main - 9.2
- Assets (8%) \$60 million
- Authorized Return-6.18% \$ 3.7 million
- Expected Return - 1.3% \$814,000
- Rate Increase - 9%
- Annual Revenue Increase = \$ 1 million



# BWL Overview

## Chilled Water

- Total Customers Served - 16
- Capacity - 8,000 Tons
- Assets (4%) \$29 million
- Authorized Return-6.18% \$ 1.8 million
- Expected Return – 2.8% \$820,000
- Rate Increase - 3%
- Annual Revenue Increase = \$155,000



Projected Net Income: Fiscal Years  
2015 Budget and 2016 - 2020 Forecast:  
No Rate Increases (in \$000)

FY2015 - FY2020, Six Year Forecast								
	2015	2016	2017	2018	2019	2020	Total 15-20	6 Yr Goal
<b>Net Income (Loss):</b>								
Electric	\$ (9,226)	\$ (12,946)	\$ (19,147)	\$ (22,926)	\$ (25,736)	\$ (28,422)	\$ (118,404)	\$ 118,460
Water	\$ 51	\$ (1,634)	\$ (2,381)	\$ (3,769)	\$ (4,995)	\$ (5,968)	\$ (18,696)	\$ 57,054
Steam	\$ (1,548)	\$ (1,510)	\$ (2,043)	\$ (2,234)	\$ (2,021)	\$ (2,168)	\$ (11,526)	\$ 16,033
Chilled Water	\$ 820	\$ 624	\$ 979	\$ 1,132	\$ 1,328	\$ 1,498	\$ 6,380	\$ 7,725
<b>Total Net Income</b>	<b>\$ (9,903)</b>	<b>\$ (15,467)</b>	<b>\$ (22,592)</b>	<b>\$ (27,798)</b>	<b>\$ (31,424)</b>	<b>\$ (35,061)</b>	<b>\$ (142,245)</b>	<b>\$ 199,271</b>

# Projections of Net Income on Net Fixed Assets - Fiscal Years 2015 Budget and 2016-2020 Forecast: No Rate Increases

<b>FY2015 - FY2020, Six Year Forecast</b>							
	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Total 15-20</b>
<b>Return %:</b>							
Electric	-2.06%	-2.69%	-3.75%	-4.29%	-4.73%	-5.08%	-22.61%
Water	0.02%	-0.72%	-0.99%	-1.51%	-1.96%	-2.31%	-7.47%
Steam	-2.60%	-2.36%	-3.13%	-3.36%	-3.00%	-3.18%	-17.62%
Chilled Water	2.81%	2.20%	3.49%	4.13%	5.05%	5.93%	23.61%
<b>Combined Return %:</b>	<b>-1.32%</b>	<b>-1.94%</b>	<b>-2.68%</b>	<b>-3.16%</b>	<b>-3.52%</b>	<b>-3.85%</b>	<b>-16.46%</b>

# History of Base Rate Increases

## **Electric:**

Mar-08	7.0%	
May-09	2.5%	
Mar-10	1.44%	
May-10	2.5%	
Mar-11	1.5%	
Oct-12	3.75%	<i>REO Town Plant Increase</i>
Oct-13	3.75%	<i>REO Town Plant Increase</i>

## **Steam:**

Mar-08	6.0%	
May-09	2.5%	
Mar-11	9.0%	
Mar-12	9.0%	
Oct-12	2.0%	<i>REO Town Plant Increase</i>

## **Water:**

Mar-08	7.0%
May-09	2.5%
Mar-10	9.0%
Mar-11	9.0%
Mar-12	9.0%

## **Chilled Water:**

May-09	2.5%
Mar-11	5.0%



**Annual Capital and Planned Capital Additions**  
**Six Year Forecast FY 2015 - 2020**  
**Board of Water and Light**

Dollars in (000's)

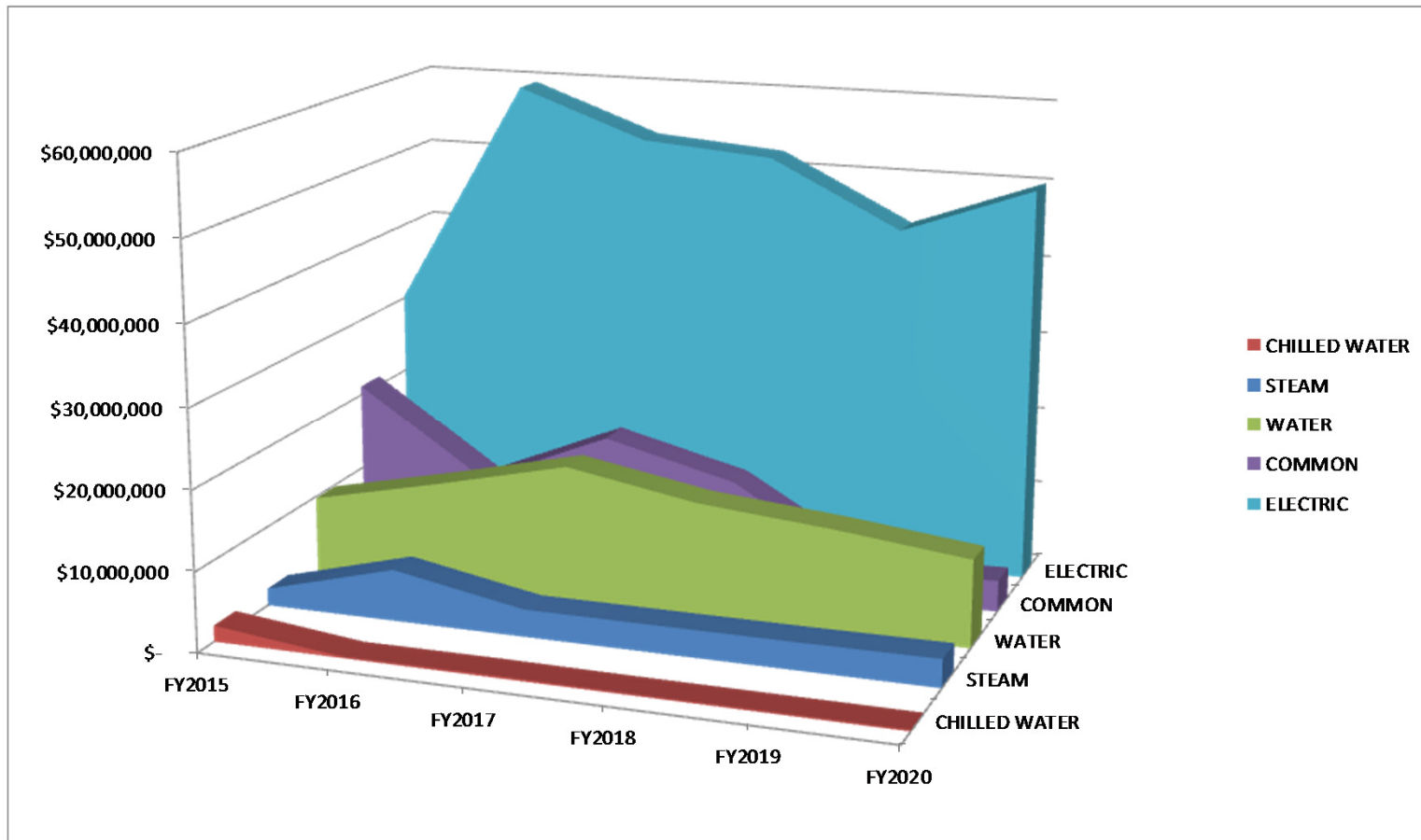
	2015	2016	2017	2018	2019	2020	Six Year Totals
<b>ELECTRIC</b>							
Sub-Total Revenue	4,898	11,528	16,666	17,266	6,807	6,357	63,522
Sub-Total Non-Revenue	25,398	47,910	36,851	34,960	37,199	43,832	226,148
<b>TOTAL ELECTRIC</b>	<b>30,296</b>	<b>59,438</b>	<b>53,517</b>	<b>52,226</b>	<b>44,006</b>	<b>50,189</b>	<b>289,670</b>
<b>WATER</b>							
Sub-Total Revenue	1,037	1,465	705	2,396	1,490	275	7,368
Sub-Total Non-Revenue	8,742	11,961	16,628	12,030	11,455	10,765	71,581
<b>TOTAL WATER</b>	<b>9,779</b>	<b>13,426</b>	<b>17,333</b>	<b>14,426</b>	<b>12,945</b>	<b>11,040</b>	<b>78,949</b>
<b>STEAM</b>							
Sub-Total Revenue	-	-	-	-	-	-	-
Sub-Total Non-Revenue	2,135	6,503	3,445	3,445	3,450	3,550	22,528
<b>TOTAL STEAM</b>	<b>2,135</b>	<b>6,503</b>	<b>3,445</b>	<b>3,445</b>	<b>3,450</b>	<b>3,550</b>	<b>22,528</b>
<b>CHILLED WATER</b>							
Sub-Total Revenue	-	-	-	-	-	-	-
Sub-Total Non-Revenue	2,020	150	225	150	150	150	2,845
<b>TOTAL CHILLED WATER</b>	<b>2,020</b>	<b>150</b>	<b>225</b>	<b>150</b>	<b>150</b>	<b>150</b>	<b>2,845</b>
<b>COMMON</b>							
Sub-Total Revenue	-	-	-	-	-	-	-
Sub-Total Non-Revenue	21,183	10,183	17,225	13,109	3,520	3,938	69,159
<b>TOTAL COMMON</b>	<b>21,183</b>	<b>10,183</b>	<b>17,225</b>	<b>13,109</b>	<b>3,520</b>	<b>3,938</b>	<b>69,159</b>
<b>CAPITAL BUDGET SUMMARY</b>							
Sub-Total Revenue	5,935	12,993	17,371	19,662	8,297	6,632	70,890
Sub-Total Non-Revenue	59,478	76,706	74,374	63,694	55,774	62,235	392,260
<b>TOTAL BUDGET</b>	<b>65,413</b>	<b>89,699</b>	<b>91,745</b>	<b>83,356</b>	<b>64,071</b>	<b>68,867</b>	<b>463,150</b>



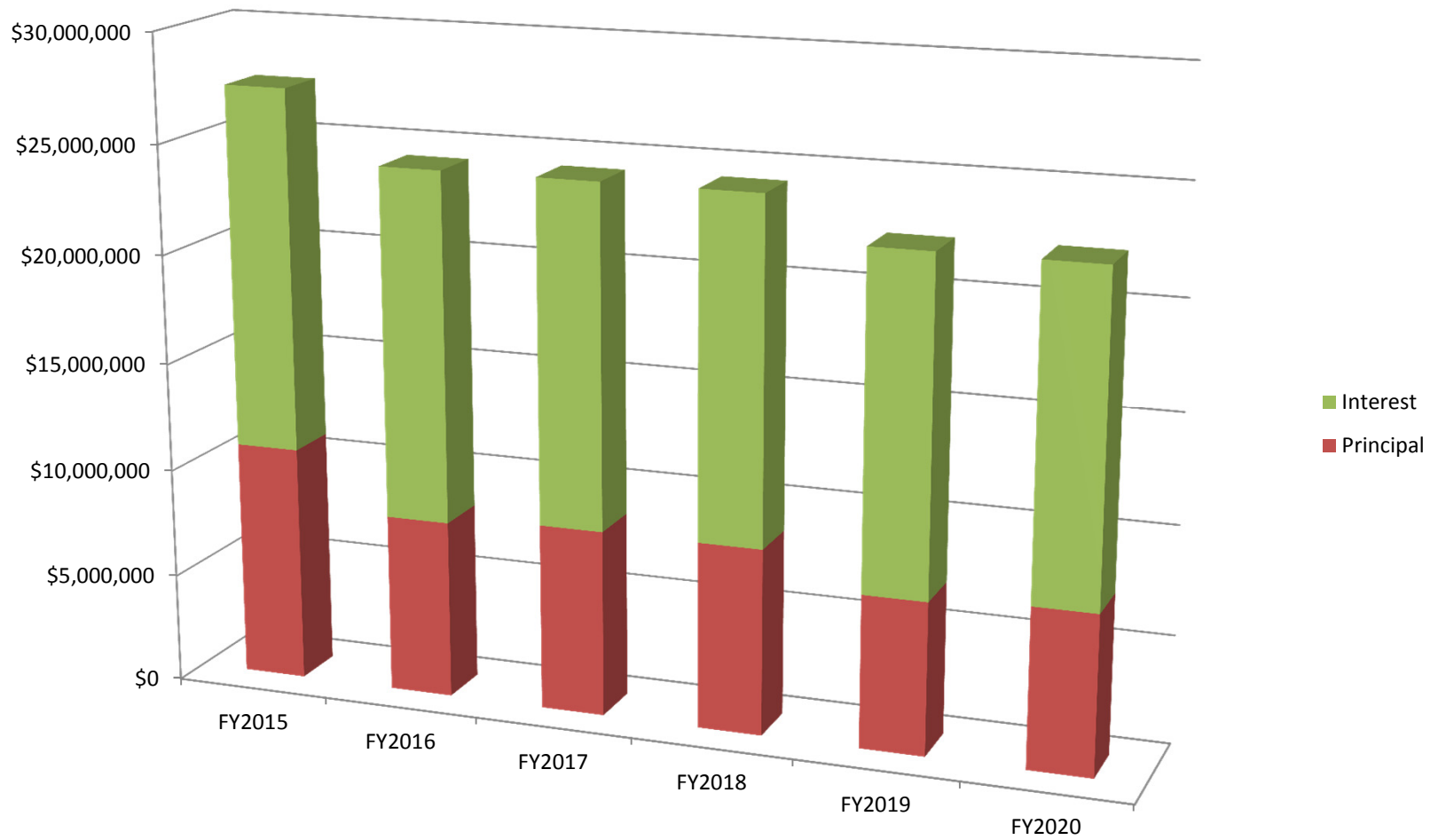
**Revenue Projects:** Revenue producing, customer driven capital additions and projects justified by a 5 year cost/benefit analysis.

# 6 Year Capital Projects Forecast

Capital Projects FY 15 Budget and FY 16-20 Forecast



# Debt Service





## BWL Mission

To provide safe and reliable services at reasonable rates

## BWL Financial Goals

1. Maintain Rate Competitiveness
2. Maintain Credit Quality
3. Ensure Adequate Liquidity
4. Return on Net Fixed Assets of 6.18%

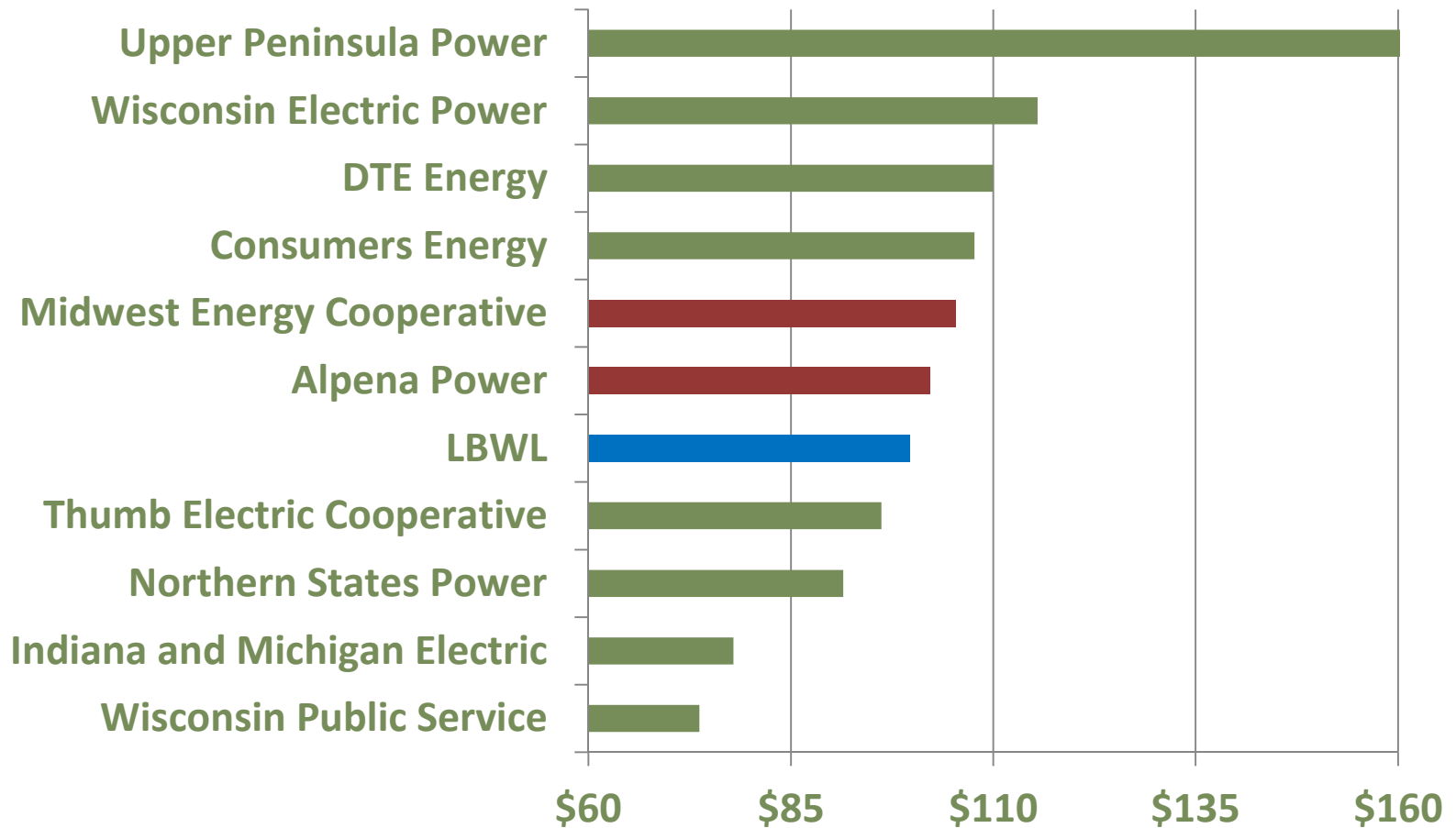


## Rate Making Principles

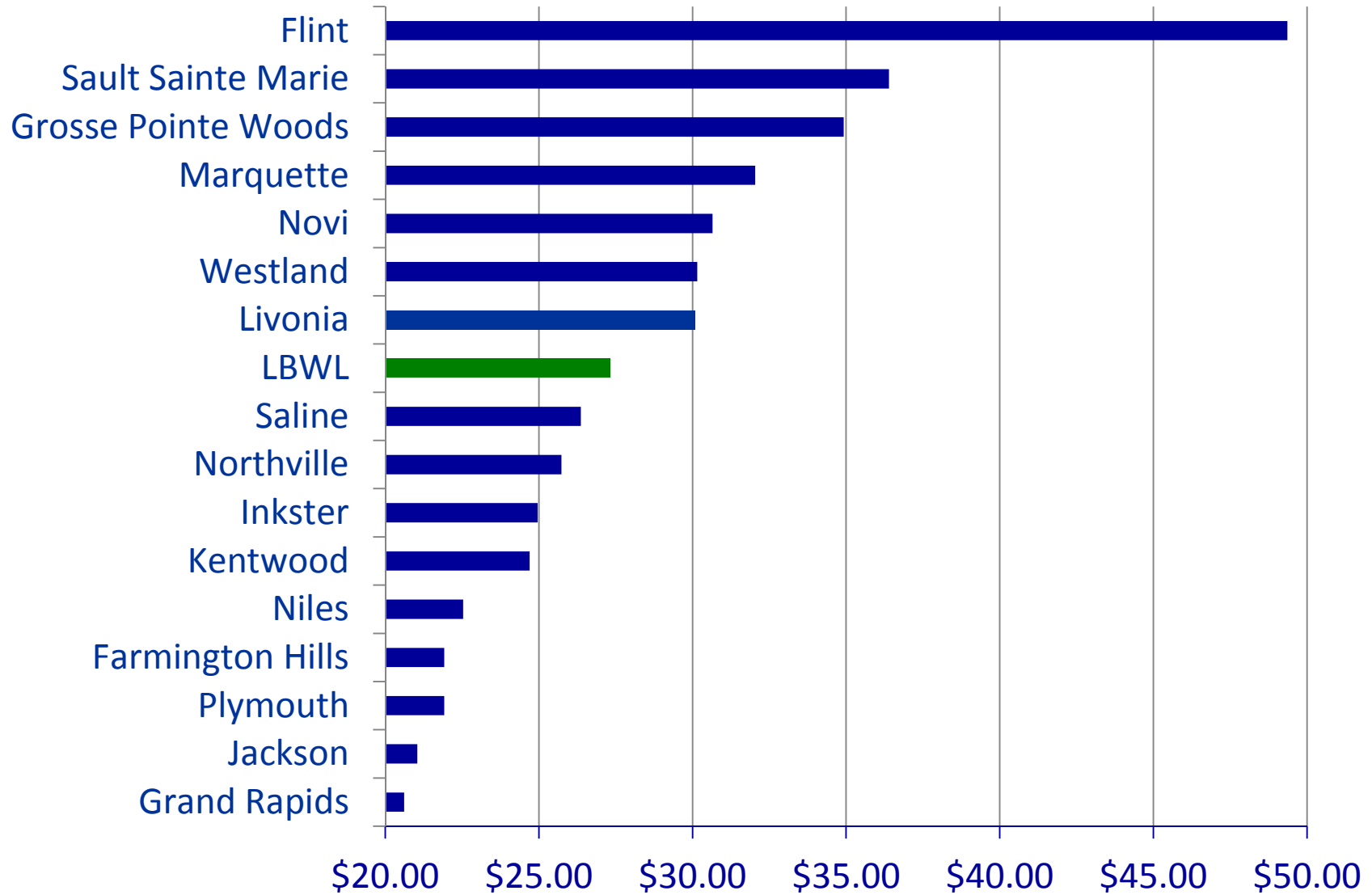
1. Rates shall be established at a level that will enable the Board of Water and Light (BWL) to meet its mission of serving the Greater Lansing area by providing high quality utility services, reliably, at the lowest reasonable cost.
2. The BWL shall recover the costs of serving its customers through its rates. Rates and charges should be sufficient to cover all O & M expenses, payment to the city, depreciation expense, and a reasonable return on the BWL's capital investment.
3. The return on the BWL's capital investment shall be sufficient to provide cash flow for debt service, bond coverage, and capital improvements.
4. Board of Water & Light rates should reflect as closely as possible the goals and desires of its customers.
5. Those who benefit from the BWL's services should pay for those services.
6. Rates for each class of customer should, as nearly as practicable, reflect the cost of providing service to that class.
7. Each utility managed by the BWL should be self-supporting. No utility should subsidize any other utility.
8. Rates should be reviewed annually and adjusted as deemed necessary to maintain the financial integrity of the BWL, and minimize the financial impact on our customers.
9. Rate shall be established and implemented according to Lansing City Charter, Section 5-205, refers to the BWL authority to set just and reasonable rates and defines the public hearing process.

# 1. Maintain Competitive Rates: Comparison of Residential Electric Bills

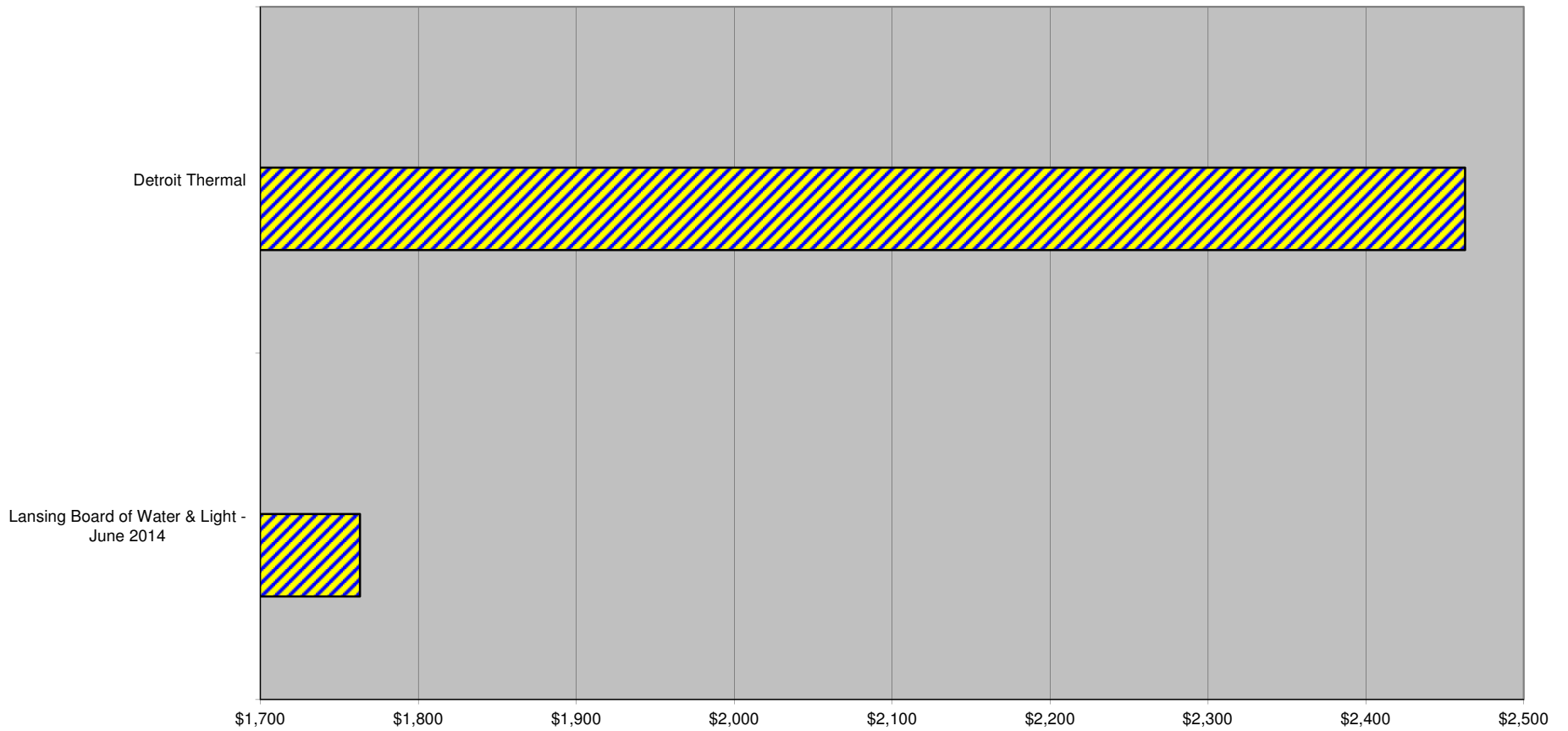
## Monthly Bills Based on May 2014 Rates - 750 kWh



1. Maintain Competitive Rates:  
Comparison of Residential Municipal Water Bills – 6 ccfs.



# 1. Maintain Competitive Rates: Comparison of Commercial Steam Bills Using 100 Mlbs Per Month





2. Maintain Credit Quality:  
BWL is Currently Rated AA- S&P and Aa3 Moody

Debt Service Coverage

1. Bond covenant requires BWL to maintain a debt service coverage of 1.25.
2. The BWL expects to have a debt service coverage ratio of 1.44 for Fiscal Year 2015 **without** proposed rate increases.
3. The BWL expects to have a debt service coverage ratio of 1.72 for Fiscal Year 2015 **with** proposed rate increases.
4. Rating agency expects AA rated utilities to have debt service coverage of 2.0 - 2.50.

3. Ensure Adequate Liquidity  
Days Cash on Hand

1. Rating agency average days cash for AA rated utilities is 159.
2. The BWL expects to have 153 days cash on hand for Fiscal Year 2015 **with** proposed rate increases.



4. Annual Return on Fixed Assets of 6.18% -  
Required Net Income to achieve return of 6.18%

Electric	\$19.7 Million
Water	\$9.5 Million
Steam	\$2.7 Million
Chilled Water	\$1.3 Million
Required Net Income	<u>\$33.2 Million</u>

# Rate Increase Drivers

- Haven't had a base rate increase in three (3) years causing inflationary pressure on Cost of Service
- CPI increases – 2.3%
- Storm Hardening - \$4.5 million
- Increase in Return on Equity to meet national average for municipal utilities the size of BWL - \$8 million
- Generate enough money to support capital budget next 6 years (6.18% Return on assets)





# Rate Recommendations

## Impact of Proposed Rate Increases – FY 2015 (reflects the rate increases for November – June)

<b>Projected Fiscal Year 2015 (July 2014 - June 2015)</b>					
	<b>Proposed Rate Increase %</b>	<b>Net Income with Increases</b>	<b>Net Income without Increases</b>	<b>Return on Assets without Increases</b>	<b>Return on Assets with Increases</b>
Electric	7%	\$ 532,483	\$ (9,226,317)	-2.06%	0.12%
Water	9%	\$ 1,995,398	\$ 51,235	0.02%	0.93%
Steam	9%	\$ (813,715)	\$ (1,548,202)	-2.56%	-1.34%
Chilled Water	3%	\$ 819,799	\$ 819,799	2.81%	2.81%
<b>Total</b>		<b>\$ 2,533,964</b>	<b>\$ (9,903,486)</b>	<b>-1.32%</b>	<b>0.34%</b>

**\* Each 1% decrease in the proposed rate increases for the four utilities reduces net income by \$1,754,000.**

# Impact of Proposed Rate Increases – FY 2016 (reflects the rate increases for the entire year)

<b>Projected Fiscal Year 2016 (July 2015 - June 2016)</b>					
	<b>Proposed Rate Increase %</b>	<b>Net Income with Increases</b>	<b>Net Income without Increases</b>	<b>Return on Assets without Increases</b>	<b>Return on Assets with Increases</b>
Electric	7%	\$ 5,527,541	\$ (12,946,237)	-2.89%	1.23%
Water	9%	\$ 2,507,796	\$ (1,634,347)	-0.76%	1.16%
Steam	9%	\$ (228,083)	\$ (1,510,466)	-2.49%	-0.38%
Chilled Water	3%	\$ 624,262	\$ 624,262	2.14%	2.14%
<b>Total</b>		<b>\$ 8,431,516</b>	<b>\$ (15,466,788)</b>	<b>-2.05%</b>	<b>1.12%</b>

**\* Each 1% decrease in the proposed rate increases for the four utilities reduces net income by \$2,422,000.**

# Recommended Rate Adjustments for Electric Utility - Fiscal Year 2015

- Decrease in Electric Renewable Energy Surcharges
- 7% Electric Rate Increase on Commodity, Capacity, and Reactive Power charges
- Increase in Monthly Service Charges
- Change in Application Charge for New Electric Customers
- New Economic Development Rider for Large Commercial and Industrial Customers
- Roll the June 2014 ECA rate into Electric Base Rates (rate neutral)

# Electric Monthly Service Charges

	<b>Current</b>	<b>Proposed</b>
<b>Rate 1 - Residential</b>	\$ 8.10	\$ 10.00
<b>Rate 3 - General Service</b>	\$ 19.38	\$ 24.00
<b>Rate 4 - Large General Service</b>	\$ 41.33	\$ 50.00
<b>Rate 5 - Primary Service</b>	\$ 103.36	\$ 125.00
<b>Rate 7 - Municipal Water Pumping</b>	\$ 12.91	\$ 16.00
<b>Rate 8 - Large Capacity Service</b>	\$ 323.02	\$ 400.00
<b>Rate 11 - Traffic Light Service</b>	\$ 2.48	\$ 3.00
<b>Rate 12 - Electric Water Heating Service</b>	\$ 25.84	\$ 30.00

# Change in New Customer Application Charge

- Increase Application Charges to \$10.00
- Current \$7 Electric Application Charge has been in place since prior to the creation of current Customer Information System, Oct 1990.
- 2013 Review of 14 Public Utilities indicates the BWL's Application Charge of \$7 is the lowest, with a mean of \$18, and high of \$30.
- New requirements for identity verification for the U.S. Fair And Accurate Credit Transactions Act and pending Payment History Reviews for Deposit Decision have and will increase New Customer Processing Costs by \$3 - \$5 per new customer.
- Nov 2012 – Oct 2013 App Charge Breakdown:

Type	Number	Current Annual Charges	Proposed Annual Charges
Commercial	1,027	\$ 7,189	\$ 10,270
Industrial	6	\$ 42	\$ 60
Residential	2,544	\$ 17,808	\$ 25,440
<b>Totals</b>	<b>3,577</b>	<b>\$ 25,039</b>	<b>\$ 35,770</b>

# Adjust Outdoor Protective Lighting and Street Lighting Rates to Reflect Cost of Service

- Outdoor Protective Lighting (OPL) and Street Lighting rates are currently below the cost of providing service.
- BWL management is proposing to move to cost of service for OPL and Street Lighting services.
- Staff proposes the move to cost of service would be done in two equal steps, the first step effective on November 1, 2014, and the second step in a future year.
- The first step results in an 11 percent increase on existing Outdoor Protective Lighting (OPL) and Street Lighting rates.

# Proposed Economic Development Rider

- This discretionary rider is recommended to help attract new load where availability of a discount is a major factor in the customer's decision on location of customer facilities.
- Available to Large Commercial and Industrial customers for new loads of 150 kW or greater.
- The discount will be applied to capacity charges as follows:
  - Years 1 – 2: up to 50%
  - Years 3 – 4: up to 30%
  - Years 5 – 6: up to 10%
  - After Year 6 ends, capacity charges will be billed according to the appropriate rate.



# Reduce Renewable Energy Plan Surcharges

	<b>Current</b>	<b>Proposed</b>
<b>Rate 1 - Residential</b>	\$ 2.50	\$ 0.75
<b>Rate 3 - General Service</b>	\$0.003/kWh	\$0.0024/kWh
<b>Minimum Monthly Charge</b>	\$ 3.50	\$ 2.80
<b>Maximum Monthly Charge</b>	\$ 15.00	\$ 12.00
<b>Rate 4 - Large General Service</b>	\$0.003/kWh	\$0.0024/kWh
<b>Minimum Monthly Charge</b>	\$ 3.50	\$ 2.80
<b>Maximum Monthly Charge</b>	\$ 15.00	\$ 12.00
<b>Rate 7 - Municipal Water Pumping</b>	\$0.003/kWh	\$0.0024/kWh
<b>Minimum Monthly Charge</b>	\$ 3.50	\$ 2.80
<b>Maximum Monthly Charge</b>	\$ 15.00	\$ 12.00
<b>Rate 12 - Electric Water Heating Service</b>	\$0.003/kWh	\$0.0024/kWh
<b>Minimum Monthly Charge</b>	\$ 3.50	\$ 2.80
<b>Maximum Monthly Charge</b>	\$ 15.00	\$ 12.00
<b>Rate 21 - Senior Citizen</b>	\$ 1.50	\$ 0.50

**Note: REP surcharges for other rates are unchanged**

# Rolling the June 2014 Energy Cost Adjustment Factor into Electric Base Rates

- The Energy Cost Adjustment (ECA) permits the monthly adjustment of rates for the cost of energy incurred in supplying electricity to customers.
- The total cost of energy incurred is the sum of energy cost in the base commodity rates and the ECA factor.
- Currently, the energy cost in the base commodity rates (i.e., the “base cost of energy”) is \$0.025839 per kWh. The ECA factor in June 2014 is \$0.022095 per kWh.
- Occasionally, the base cost of energy is adjusted to recognize cumulative changes in the ECA factor. The ECA factor is then adjusted by the same amount.
- The last time that the BWL adjusted the base cost of energy was in May 2009.
- This change will have no impact on customer bills.

## Rolling the June 2014 Energy Cost Adjustment Factor into Electric Base Rates – Typical Residential Customer

<b>ELECTRIC:</b>	<b>Current Rates 6/1/2014</b>	<b>After ECA Roll-in</b>
Commodity (per kWh) 1st 500 kWh	\$0.0937	\$0.1158
Commodity (per kWh) Excess kWh	\$0.0989	\$0.1210
ECA	\$0.022095	\$0.000000
Energy Optimization	\$0.001853	\$0.001853
Estimated Monthly Use	550 kWh	
Commodity	<u>\$ 64.97</u>	<u>\$ 64.97</u>

# Effect of All Proposed Rate Changes on a Typical Monthly Residential Electric Bill Using 550 kWh of Electricity Per Month

<b>ELECTRIC:</b>	<b><u>6/1/2014</u></b>		<b><u>11/1/2014</u></b>
Service Charge (per month)	\$8.10		\$10.00
Renewable Energy Plan	\$2.50		\$0.75
Commodity (per kWh) 1st 500 kWh	\$0.0937	-----7% increase----->	\$0.1001
Commodity (per kWh) Excess kWh	\$0.0989	-----7% increase----->	\$0.1056
ECA	\$0.022095		\$0.022095
Energy Optimization	\$0.001853		\$0.001853
Estimated Monthly Use	550 kWh		
Service Charge	\$8.10		\$10.00
Renewable Energy Plan	\$2.50		\$0.75
Commodity	\$ 64.97		\$ 68.50
Total Bill	\$75.57		\$79.25
		<b>Increase ---&gt;</b>	<b>\$ 3.69</b>
		<b>Increase %---&gt;</b>	<b>4.88%</b>

## Revenue Effect of Proposed Electric Rate Changes

- **\$10,393,000** increase in revenues for remainder of Fiscal Year 2015; assuming a November 1, 2104 implementation date.
- **\$16,049,000** increase in revenues for a full fiscal year.

## Recommended Rate Adjustments for the Water, Steam, and Chilled Water Utilities - Fiscal Year 2015

- 9% Water Increase
- Change in Application Charge for New Water Customers to \$10
- 9% Steam Increase
- 3% Chilled Water Increase

## Effect of a 9% Rate Increase on a Typical Monthly Residential Water Bill Using 6 ccf of Water Per Month

<b>WATER:</b>	<b><u>6/1/2014</u></b>		<b><u>11/1/2014</u></b>
Service Charge (per month)	\$11.19	----9.0% increase---->	\$12.20
Commodity (per ccf)	\$2.56	----9.0% increase---->	\$2.79
PCA	\$0.128		\$0.128
Estimated Monthly Use	4,500 gallons 6 ccf		4,500 gallons 6 ccf
Service Charge	\$ 11.19		\$ 12.20
Commodity	<u>\$ 16.13</u>		<u>\$ 17.51</u>
Total Bill	\$ 27.32		\$ 29.71
		<b>Increase ---&gt;</b>	<b>\$ 2.39</b>
		<b>Increase %---</b>	<b>8.75%</b>

# Increased New Customer Application Charge

- Current \$7 Water Application Charge has been in place since Jan 1994, when it was raised from \$6 to \$7 to match Electric
- 2013 Review of 14 Public Utilities indicates the BWL's Application Charge of \$7 is the lowest, with a mean of \$18, and high of \$30.
- New requirements for identity verification for FACTA and pending Payment History Reviews for Deposit Decision have and will increased New Customer Processing Costs by \$3 - \$5 per new customer.
- Nov 2012 – Oct 2013 App Charge Breakdown:

Type	<u>Number</u>	<u>Current Annual Charges</u>	<u>Proposed Annual Charges</u>
Commercial	544	\$ 3,808	\$ 5,440
Industrial	5	\$ 35	\$ 50
Residential	9,660	\$ 67,620	\$ 96,600
<b>Totals</b>	10,209	\$ 71,463	<b>\$ 102,090</b>



## Revenue Effect of Proposed 9 % Water Rate Increase

- **\$2,071,000** increase in revenues for remainder of Fiscal Year 2015; assuming a November 1, 2014 implementation date.
- **\$3,277,000** annual increase in revenues for a full fiscal year.

## Effect of a 9% Rate Increase on a Typical Commercial Customer's Monthly Steam Bill Assuming 100 Mlbs

<b>COMMERCIAL STEAM:</b>			
	<u><b>6/1/2014</b></u>		<u><b>11/1/2014</b></u>
Service Charge (per month)	\$12.44	----9.0% increase---->	\$13.56
Commodity (per Mlb)	\$14.49	----9.0% increase---->	\$15.77
FCA and ATA	\$3.0383		\$3.0383
Estimated Monthly Use	100 Mlb.		100 Mlb.
Service Charge	\$ 12.44		\$13.56
Commodity	<u>\$ 1,752.83</u>		<u>\$ 1,880.83</u>
Total Bill	\$ 1,765.27		\$ 1,894.39
		<b>Increase ---&gt;</b>	<b>\$ 129.12</b>
		<b>Increase %</b>	<b>7.31%</b>

## Revenue Effect of Proposed 9% Steam Rate Increase

- **\$783,000** increase in revenues for Fiscal Year 2015; assuming a November 1, 2014 implementation date.
- **\$1,009,000** annual increase in revenues for a full fiscal year.

# Effect of a 3% Rate Increase on a Typical Commercial Chilled Water Customer's Monthly Bill

<b>COMMERCIAL CHILLED WATER:</b>			
	<b><u>6/1/2014</u></b>		<b><u>11/1/2014</u></b>
Capacity Charge (per ton)	\$43.74	---3.0% increase---	\$45.05
Commodity Charge (per Mlb)	\$0.124	---3.0% increase---	\$0.128
Estimated Monthly Use			
Demand	169 Tons		169 Tons
Commodity	22,791 Ton-hr		22,791 Ton-hr
	Capacity \$ 7,392.06		\$ 7,613.45
	Commodity \$ <u>2,826.08</u>		\$ <u>2,917.25</u>
	Total Bill \$ 10,218.14		\$ 10,530.70
		<b>Increase ---:</b>	<b>\$ 312.55</b>
		<b>Increase %</b>	<b>3.00%</b>

## Revenue Effect of Proposed 3% Chilled Water Rate Increase

- **\$95,000** increase in revenues for Fiscal Year 2015; assuming a November 1, 2014 implementation date.
- **\$155,000** annual increase in revenues for a full fiscal year.

# Rate Change Timeline:

## Public Hearing: publication and filing dates

### Key Dates:

- Board Meeting to Approve Filing with the City Clerk: July 22, 2014
- Filing with City: August 4, 2014
  - At least 45 days before the public hearing, the Board shall file with the City Clerk a statement explaining the new rates and charges together with a notice of the public hearing.
- Notice to customers in August/September bills and posted on BWL internet.
- Publication in Newspaper: August 27, 2014
  - Notice of the hearing will be placed in at least one (1) newspaper of general circulation in the Lansing, Michigan area, no less than fourteen (14) days before the public hearing.
- Public Hearing Date: September 18, 2014
  - The Board shall conduct a public hearing at least 30 days prior to the effective date of any changes in rate structure.
- Board Meeting to Review Public Hearing Comments and Issue Resolution Concerning Rate Changes: September 23, 2014
- Rate Adjustment Effective: November 1, 2014