

Reading Municipal Light Board of Commissioners

Regular Session

230 Ash Street

Reading, MA 01867

May 14, 2015

Start Time of Regular Session: 6:38 p.m.

End Time of Regular Session: 9:55 p.m.

Commissioners:

Thomas O'Rourke, Chairman

Philip Pacino, Commissioner

Dave Hennessy, Commissioner, Secretary Pro Tem

David Talbot, Vice Chair

John Stempeck, Commissioner

Staff:

Coleen O'Brien, General Manager

Robert Fournier, Accounting/Business Manager

Jane Parenteau, Integrated Resources Director

Jeanne Foti, Executive Assistant

Hamid Jaffari, Director of Engineering and Operations

Mark Uvanni, MIS Manager

Guests:

Steve Rupp, Vice President, Engineering Solutions, Leidos

Ken McNeil, Operations Manager, Booth & Associates

Joan Boegel, Climate Advisory Committee

Gina Snyder, Climate Advisory Committee

Citizens' Advisory Board (CAB):

Dave Nelson, Vice Chair

Call Meeting to Order

Chairman Talbot called the meeting to order and stated that the meeting was being videotaped; it is live in Reading only.

Opening Remarks

Chairman Talbot read the RMLD Board of Commissioners Code of Conduct.

Introductions

Commissioner Hennessy will be the Secretary this evening. Chairman Talbot recognized Citizens' Advisory Board member Dave Nelson.

Chairman Talbot polled to see if there was any public comment, there was none. Ms. O'Brien stated that members of the Climate Action Committee were going to be present later in the meeting. Chairman Talbot will open up discussion at that point.

Review of RMLD's Fiscal Year 2016 Capital Budget (Attachment 1)

Ms. O'Brien reported both, the Capital and the Expense Budgets were presented to the Citizen's Advisory Board (CAB) and received approval for recommendation to the Board. This evening the Capital Budget will be presented. Ms. O'Brien reminded the Board that from last year RMLD has changed the budget into a six year plan including Fiscal Year (FY) 2015 budget and year to date out to FY 2020. FY 2017 through FY 2020 are illustrative to provide the Board an idea of the projects that are planned out. Ms. O'Brien pointed out that the RMLD had the preliminary results of the Reliability Study. Ms. O'Brien indicated that the results had already been incorporated in the budget. At this point, Ms. O'Brien turned the budget presentation over to the staff.

Mr. Jaffari stated that in the FY 2016 Capital Budget, the results of the recently completed Organizational and Reliability Study were incorporated.

Mr. Jaffari reported in regard to the FY 2016 Capital Budget, the following capital expenditures are also recommended by Booth & Associates in the Reliability Study: Substation 4 Switchgear Breaker Replacement \$508,000, Distributed Generation \$2.164 million with anticipation of this occurring at Substation 3 because there is a gas available. The gas line can be configured onto the corner of the property through a bus to the breaker. The Substation Equipment Upgrade at Substation 4 and 5 costing \$254,000. GIS Upgrade is \$420,000 the Request For Proposal (RFP) for that project is out and is due back by May 19 with approximately ten to twelve vendors who have sent in proposals. Stepdown Upgrades, which need to be converted from 4KV to 13.8 KV which will decrease system losses by replacing old equipment and increase plant value. The Transformers/Capacitors, \$668,000 these are the ones that will be upgrade as part of the transformer load management program, the age related or load related. Mr. Jaffari reminded the Board there have been a few transformer oil leaks in the past that is a sign of transformer deterioration due to age.

Review of RMLD's Fiscal Year 2016 Capital Budget (Attachment 1)

Mr. Jaffari continued noting RMLD needs to install more cap banks that can be controlled from the SCADA. Currently, the capacitors, during the peak time, are manually being operated, with having the SCADA this will automate the process, as the load increases during the peak. These capacitor banks would be automatically programmed to come on which improves the power factor by decreasing kbar losses.

The following are capital projects: LED Streetlight upgrade is a three year program that costs \$3.6 million, the HVAC System Upgrade is for 230 Ash Street building and will cost \$600,000. Currently, the Request For Proposal (RFP) is being evaluated and the recommendation will be presented to the Board next month. URD upgrades are \$340,000. These includes Cooks Farm in Lynnfield and others that our underground system contractor currently working on. In the Routine Construction category the RMLD generally spends approximately \$1 million annually on the commercial and residential. Rolling Stock Program is budgeted at \$448,000, which consists of trucks, forklifts and the spreader. Mr. Jaffari stated that the AMI/Metering System (500 Club) will cost \$219,000, for approximately sixty meters because RMLD to get information out of those meters that we are not capable of reading. The RFP which was awarded to Cooper Eaton System, which is the most advanced AMI system providing a true two-way Fixed RF mesh networking. Using Eaton AMI, the metering information can come back to the SCADA system that can help fault detection & isolation operation. RMLD is in the pilot phase of this program with everything going well. MIS is budgeted for \$451,000, which includes software and servers. Mr. Jaffari noted that he and Mr. Uvanni worked jointly on the technology road map to ensure there is no redundant spending cross departmentally. IRD includes EVSE, Data Loggers and Efficiency Meter is budgeted for \$60,000. Other projects (Facility Site Plan, Lowell Street Project, West Street, and Fiber Optics) are budgeted for \$2.014 million. These projects are Lowell Street, URD constructions, and the Department of Transportation, Commonwealth of Massachusetts funded projects like West St upgrade in Reading. The fiber optic loop needs more nodes for distributive automation projects. It is a great asset because fiber is the best communication backbone for the distribution automation system.

Mr. Jaffari stated that the total Fiscal Year 2016 capital projects come in at \$10.59 million. Most of the items in the budget are maintenance related with old items being taken down with new being put up that will increase the plant value.

Ms. O'Brien asked Mr. Jaffari about the capital project transfers from last year off the \$10.5 million that was approved by the CAB, what is the amount. Mr. Jaffari responded that the carryover is approximately \$2.5 to \$3.0 million. Mr. Jaffari reported that the HVAC, LED, URD and West Street were carry overs from last year. Mr. Jaffari reported that of the \$7 million that \$2.1 includes distributed generation. Capacity and transmission costs will be tripling in 2017 this is a way for the RMLD to mitigate some of the expenses which are passed onto our customers and Ms. Parenteau will elaborate more on this issue.

Chairman Talbot asked if that piece of it will be presented later during the meeting. Mr. Jaffari confirmed that it will be presented in more detail.

Mr. Jaffari discussed the new Tree Trimming Program as of January 2015. Integrated Vegetation Management (IVM). The IVM document is out and has been given to the tree wardens as well as the DPW Directors of each community. Mr. Jaffari stated that he had the first meeting with North Reading DPW Director and Tree Warden. We also met with each community, Town Manager and the Board of Selectmen, informing them that RMLD would like to go to the eight foot cut as soon as the IVM is out and will be delivered to them. Now RMLD is in compliance with Massachusetts Law Chapter 87 for IVM. The RMLD did not have an official IVM Plan prior to this implementation and are in compliance. Mr. Jaffari reported on the underground crews under the current contract effective September 1, 2015, with Fisbach & Moore will not be renewed. RMLD expects augmenting crews to handle all the underground splicing, terminations and making the elbows. In absence of the contractor beginning on September 1, the RMLD will take the underground work back. Mr. Jaffari explained that the contract currently states that RMLD is contractually obligated to give crews eight hours of overtime on Saturdays because the contractors are working on our system. As a result of this transition, mandatory overtime connected with the underground contractor will go away. However, that does not mean the overtime will be cut down totally because there is substantial maintenance that needs to be performed in order to get caught up. Also, part of the overtime on Saturdays and Sundays are subsidized by the contractors for the fiber installation or the jobs that the customers are required to shut down on holidays, therefore, not all overtime will be charged to RMLD costs. Mr. Jaffari stated that RMLD uses the pole software in house. In the past, the RMLD farmed out engineering services for circuit designs now RMLD has software, for a great investment of \$14K, guarantees RMLD will be within the code, National Electric Safety Code. This software is interactive and is a very good tool to have for the design. It makes sure RMLD meets all the clearances for public safety and employee safety sake. Now every engineer has access to this software, for any type of design, pole upgrades, any change taking place first it will be performed on the software to make sure it is good engineering practice before it goes out to construction. Mr. Jaffari added this is another costs saving RMLD will have in place because it eliminates engineering firms.

Mr. Jaffari said that the Substation Testing and Maintenance Program is in the works. RMLD has spent \$150,000 on the substations in order that equipment could be tested which has been completed. Now we have the list of what needs to be fixed with almost 70% of those findings are fixed.

Review of RMLD's Fiscal Year 2016 Capital Budget (Attachment 1)

Mr. Jaffari stated that a breaker that needed to be replaced, the eight bushings of the transformers at Station 4 - 115kV/5kV transformers that the bushings were bad which were on the verge of failure were replaced, the breakers were replaced, but some minor things still need to be repaired.

Mr. Jaffari noted that the RMLD purchased a state of the art testing device from Omicron. The new Tech Services Group is receiving training from Omicron. In the future Tech Services will be perform those tests with the exception of 115kV which represents a cost savings. RMLD does not have testing equipment for the 115kV because it is expensive specialty equipment therefore, it is more effective to have professional testing vendors.

Mr. Jaffari said that RMLD is using the NJUNS software that allows for better tracking that Verizon as well as Comcast also utilize this software. When RMLD is installing a pole and needs a transfer it automatically goes into the other party's database, showing when they need their transfer, which will make these timelier. Mr. Jaffari pointed out that RMLD will see an increase in number of double poles throughout the system because of all the system upgrades that is needed for the maintenance. In light of the pole testing program 30% of poles that were tested failed. RMLD has replaced all poles identified as condemned to make sure it is safe, however, there are more that need to be replaced.

Mr. Stempeck stated that with the pole testing program he noticed that in the data that two thirds of the poles are owned by Verizon, is RMLD is testing their poles, as well? Mr. Jaffari stated no, not right now, that is a recommendations that Booth & Associates made. RMLD will have to meet with Verizon to work on the joint agreement as well as talking to them about the testing of their poles. Mr. Jaffari stated that his recommendation would be to test them even if they are not spending the money to do that. This must be discussed with Verizon first because it is their set area. It is Verizon's obligation, by law, to inspect 10% of the poles. RMLD will entertain the idea and will come up with a mutual agreement. Mr. Jaffari stated that the poles that are found in the field that are failing RMLD will give Verizon the list. In fact, RMLD has already tested 17 of their poles, 10 failed after receiving the report from RMLD Verizon has already replaced those poles. Mr. Jaffari stated that due to their liability they would embrace it and have it done. Mr. Jaffari and Ms. O'Brien are working with Verizon.

Ms. O'Brien stated that there are states where Verizon has gotten out of the pole business and it is unclear about what is happening with Massachusetts because there is legislature under the DPU that gets a little sticky with Verizon. Ms. O'Brien commented that RMLD will be meeting with Verizon on the pole testing, pole replacement and transfers. RMLD does not know what the other companies, such as Frontier, that are buying out Verizon are doing, it could be a big issue in this area. Ms. O'Brien stated that if there are 13,000 poles with 2/3 of those poles are Verizon's, RMLD may need digger derricks and manpower to replace poles for transfers that is something RMLD needs to know. Mr. Pacino stated that for many years there has been discussion on buying the poles from Verizon. It has never been successful.

Ms. O'Brien pointed out that Booth & Associates is at the RMLD training employees on the National Safety Code Training, which entails loading and guying on the pole. In some instances, out in the field, when a pole has been hit Verizon has come in and actually chopped down their wire and did not replace it, that is another issue. Ms. O'Brien stated that she wants to discuss with Verizon some of their equipment/wires on the pole just leaving and abandoning in place because it would affect RMLD's loading and guying.

Mr. Jaffari reported on the Purchasing Power savings, in such areas such as distributed generation at Substation 3, implementing a Demand Side Management Program as well as a small Demand Response/Peak Shaving Program in which Ms. Parenteau will speak to. This will be implemented once the sixty meters are upgraded are replaced.

Mr. Jaffari reported on Engineering & Operations pointing out that Booth & Associates investigated and endorsed all the newly developed programs such as: the Maintenance Programs, the Field Optimization Plans, System Automation Plan, System Planning and Designing Methods, NEC Codes Enforcement Method, System Design Tools, Training Programs and Safety Program, all the programs. The Reliability Study recommendations will be presented by Ken McNeil from Booth & Associates since these are all the major recommendations that they made. The Organizational Study, the deficiencies and recommendations will be presented by Steve Rupp from Leidos in more detail.

Distributed Generation Cost Benefit Comparison

Ms. Parenteau stated that since distributed generation was a large ticket item within the Capital Budget, three different technologies were looked at in terms of their strengths and weaknesses. One thing that is important to mention is that all of these technologies are very good, our approach has historically been the portfolio approach. In time, as prices have come down it is RMLD's hope that we can incorporate all of these into the portfolio, which in fact we have some of those items. In reviewing national gas fueled distributed generation and compared it with battery storage, energy storage and a solar pv canopy, which is really comparing apples and oranges. However, we wanted to give the Board some analytical cost benefits to look at this in terms of information and voting on the Capital Budget. The way we looked at this is we took \$2 million and checked what that would buy us across these three different technologies.

Distributed Generation Cost Benefit Comparison

Ms. Parenteau pointed out that there is \$2.1 million dollars which is the amount that is in the Capital Budget for the natural gas distributive generation that would obtain approximately two megawatts of off peak power that we would be able to curtail both for the capacity and the transmission peak.

Ms. Parenteau explained that for \$2.1 million for battery storage we would get about one megawatt which would have a capacity value of .8 and then for a solar canopy system \$2.1 million gets approximately 750 kilowatts if you look at that in terms of peak demand, because from a capacity standpoint, we usually peak between 3:00 p.m. to 5:00 p.m. with the solar maximizing around 10:00 a.m. to 2:00 p.m. there would be some degradation in terms of the amount of peak value that we would be able to obtain from a solar system. We took a conservative approach because we do not want to overestimate any savings. We assumed a debt service of about 3.5% if we were to finance this over a ten year period of time over time in each of these scenarios, included some interest in as well as the payback of the principal amounts. When you look through the numbers over an annual basis the expenses of the three scenarios were about \$500,000 for the DG (natural gas), about \$300,000 for the battery storage and about \$252,000 for the solar.

For the potential income we looked at capacity credits, transmission credits and if we were to run this for economic and LMP or energy savings that would arrive at some additional dollars. On the solar side, the SRECs is really what generates it, those are solar renewable energy certificates and that market is regulated by the state and what we have is a pricing over a ten year period for that piece. The net cash value for those three scenarios for a ten year period is: the distributive gas unit it was about \$4.2 million, battery storage was about \$731,000, and about \$414,000 for the solar canopy. Ms. Parenteau stated that we wanted to provide the relative impact on the residential customers because as we all know Purchase Power is a pass through, whatever our costs are we pass that to our consumers. If we are able to implement some of these things we could reduce that cost we are passing though because as a utility RMLD is unable to earn any revenue on it.

Mr. Stempeck asked, in terms of the net cash value is it a cash flow over ten years. Ms. Parenteau answered, yes it is based on an assumption of 4% of the net present value. Mr. Stempeck asked if there was there any residual life. Ms. Parenteau stated they looked at the ten year period only because that was the finance period that RMLD assumes, but there is residual life after that period.

Mr. Stempeck asked about the battery storage, is that for a conventional battery. Ms. Parenteau stated that it would be a utility size, but RMLD would like to do a pilot with that we can get some of those on the solar system in order to get a sense of the advantages/disadvantages for the consumer and for the utility to do an analysis.

Chairman Talbot asked about where these unit are housed. Mr. Jaffari responded that Southern California Edison is building a plant based on that. Chairman Talbot asked if you are going to test a lithium ion battery. Mr. Jaffari said that the RMLD are planning to start with the small packet, lithium ion.

Mr. Stempeck asked if each one of the technologies provides positive net cash value. Ms. Parenteau responded that is correct. Mr. Stempeck stated that they are all liable. Ms. Parenteau agreed noting that it is just a matter of how we base those into a long term plan. Mr. Jaffari added that the return on investment on gas generators is four to five years, with the solar it is approximately ten years and the battery is also the same. It is a matter of what makes sense for now is distributed generation starting with two megawatts then next thing is solar at Station 3 and also some local pilot programs.

Mr. Stempeck stated that the compelling feature of the gas generator would prove to be it is a proven technology that has been around for a long time. Ms. Parenteau stated that in hand with that we are doing demand response because our customers signed up. The advantage over an actual generator is that RMLD would have control, we can make appeals out there which we plan on doing and we have customers signed up. Again, it is trying to get a little bit of everything, when that peak period comes we show a decrease in our megawatts.

Chairman Talbot stated that as batteries go down that is a blessing because they are more likely to get cheaper when everybody has them. In ten to twenty years the economy has changed all that cheap power at night is not cheap anymore because everybody is soaking it up in their cars and in their home batteries has anybody projected that? There will be a lot more electric cars coming out. Mr. Jaffari responded that RMLD will wait to see how the technology changes within the next ten years. Our goal is to do whatever makes sense.

Chairman Talbot asked is it correct that we have about 300 electric water meters and 400 electric water heaters to switch? Ms. Parenteau answered that it is about 250 and three hundred 300.

Chairman Talbot asked how many are there in the district, if a couple thousand. Ms. Parenteau answered yes, that is correct and it was stated in GDS Study back in 2008 that there was about 2,000 to 4,000. Chairman Talbot stated that there is about 90% electric water heaters they are getting about \$20.00 per month.

Distributed Generation Cost Benefit Comparison

Ms. Parenteau stated that there is an advantage of being on electric hot water heaters to allow us to shut it off for two hours per day and the credit for that is approximately \$100 per year. Chairman Talbot stated that if people knew about it they would take the \$100 annually, it would be nice to hit the other 90%. Chairman Talbot clarified that if all three thousand on this program, what would that buy the RMLD? Ms. Parenteau stated that it is estimated that the customers on the hot water rate we had a few years that were shut off during the peak was about 500kW.

Chairman Talbot stated that 250 customers are on the electric hot water heater rate, if another 1,000 customers are on this rate the RMLD would save two megawatts right there. For 1,000 customers to have water heaters what is it in terms of cost? Mr. Jaffari replied that the labor takes about two to three hours, at an hourly rate of \$150 for a cost of \$300 to \$450 installed.

Chairman Talbot pointed out that for the cost of \$100,000 if more customers were aware of this program the RMLD could obtain 2 megawatts of peak shaving. This is where the RMLD needs the outreach and where customers could help us. Ms. Parenteau stated that the nice thing about the hot water is it goes unnoticed for the customer.

Mr. Jaffari added that the good news is with the new AMI System RMLD will be able to assist demand response programs. It would all be through the SCADA triggered by load. So as the load goes up it will automatically be activated.

Chairman Talbot asked if RMLD has the ability to see who has electric water heaters by the power consumption signature because they may click on when they are getting a lot of juice at once and come up with a list. Mr. Uvanni asked how would RMLD know it was hot water, it could be something else at a house? Chairman Talbot stated that the technology does exist. Mr. Uvanni stated that the technology does exist, but the customer would need to have a smart hot water heater in order to determine being connected to a wireless internet, generally speaking.

Chairman Talbot stated that if RMLD watched the load within the course of an hour or two and when the hot water heater kicks on it is such a big jump it is almost certainly going to be a hot water heater. Chairman Talbot asked if there is a way to know now. Mr. Uvanni replied, yes there is because technically we do hourly reads, we could measure a level of consumption by the hour.

Mr. Stempeck stated that he thinks it is a good idea for an outreach perspective and maybe take the next step and ask the Board of Commissioners and CAB should convert their hot water heaters.

Chairman Talbot stated that it is well worth infer existing electric water heaters from the RMLD reads, there are different vendors and software out there. If we can have a short list and then we have a job for community outreach to call these customers.

Mr. Pacino pointed out that the CAB approved the Fiscal Year 2016 Capital Budget 4:0:1, Mr. Nelson was absent.

Mr. Pacino made a motion seconded by Mr. O'Rourke that the RMLD Board of Commissioners approve Fiscal Year 2016 Capital Budget dated March 25, 2015 in the amount of \$10,596,000 as presented.

Motion carried: 5:0:0.

Report of the Chairman of the Board – Chairman Talbot – Broadband Study Committee

Chairman Talbot explained that the motion would make a suggestion to possibly be followed by the formation of a committee to study if there is a model that makes sense for an internet offering by the RMLD. There are twelve municipalities in the state that have done some business. The right way to do this is incrementally by identifying a specific target. The opportunities such as Taunton seized was when a commercial park they have been making revenue off of that for fifteen years. You can be the service provider for your own municipality. The utility can look at what municipalities are spending today on leased lines, internet and look to see if you can offer a better price. A study can be compiled to look at the service and guaranteed revenues and potential savings to the taxpayer. A study committee is needed to start this. It has to be all four towns that look at this. The motion is a suggestion that this can be done. He spoke to the Town Manager and the Town Charter permits the Board to form committees. The proper way to form this is to sit down with the CAB. Defining who would be on the committee needs to be done. The first task is to identify what you have for fiber, the RMLD has and Town of Reading has fiber. What do the other communities that RMLD serves has, it is a holistic approach. The second thing to look at is what are the schools and town halls spending for telecom services, can we do it ourselves. Holyoke with their first approximation is saving approximately \$200,000 annually over a ten year period that is \$2,000,000.

Mr. Stempeck said that he is in favor of this four communities working at one time. Four communities can have more of an impact. Is it going to be separate from the RMLD, is there an issue with the utility being involved, the arm's length. Chairman Talbot said that it is a good suggestion. The next step would be work with the CAB. As long as it is being done with recommendations for opportunity brought to us.

Report of the Chairman of the Board – Chairman Talbot – Broadband Study Committee

Mr. O'Rourke said that this is appropriate, the arm's length issue can be addressed by who is the chairman and appointed not RMLD and CAB. Chairman Talbot said that it should not be RMLD or CAB members, but experts within the community.

Mr. O'Rourke asked Mr. Nelson if the CAB is interested in looking into this. Mr. Nelson said that is good to at least start the conversation.

Mr. Stempeck made a motion seconded by Mr. Pacino that the RMLD Board of Commissioners suggests that a four-town Broadband Study Committee be investigated and if appropriate be formed, with input from RMLD Citizens' Advisory Board and the four Boards of Selectmen, to investigate potential municipal and school savings, economic development opportunities as well as other market needs that could be served by a RMLD Internet or telecom offering or other.

Motion carried: 5:0:0.

Note: Dave Talbot was Chairman up to this point in the meeting.

Reorganization of RMLD Board of Commissioners (Attachment 2)

Mr. Stempeck made a seconded by Mr. Talbot to nominate Mr. O'Rourke for Chairman of the RMLD Board of Commissioners.

Motion carried 5:0:0.

Chairman O'Rourke was honored for the opportunity.

Mr. Stempeck made a motion seconded by Mr. Pacino to nominate Mr. Talbot for Vice Chairman of the RMLD Board of Commissioners.

Motion carried 5:0:0.

Committee Reorganization

Audit Committee

Mr. Pacino will remain on the Audit Committee with Mr. Pacino being appointed to the Town of Reading Audit Committee. Mr. Hennessy volunteered to be on the Audit Committee.

Budget Committee

Ms. Foti suggested eliminating this Committee considering the RMLD Board of Commissioners all vote on the budget, anyway. All Commissioners agreed to eliminate the Budget Committee.

Policy Committee

Mr. Pacino, Mr. O'Rourke and Mr. Stempeck will make up the Policy Committee.

Account Payables and Payroll

Ms. Foti suggested where Mr. Soli filled in, it will now be Mr. Hennessy with Mr. Pacino as first backup. All the commission members were in agreement.

Mr. Stempeck made a motion seconded by Mr. Pacino to approve all the Committee changes and assignments.

Motion carried: 5:0:0.

Presentation – Organizational – Mr. Steve Rupp, Vice Present, Engineering Solutions, Leidos (Attachment 3)

Chairman O'Rourke welcomed Mr. Rupp, who will present the Organizational Study results.

Mr. Rupp started the presentation by pointing out that the utility industry is undergoing through profound changes. He has spent a lot of time with the agencies that focus on public power such as American Public Power Association, Light Public Power Council, and Northeast Public Power Association in addition to agencies across the country. Mr. Rupp stated that the type of categories he thinks about when referencing profound changes are aging infrastructure which is a national problem involving all elements of infrastructure from roads to wet infrastructure to electrical infrastructure. We are a country that has grown relatively fast and have not been as responsible as we could have been in keeping up with the infrastructure. Now we talk about the paying price as we look forward to challenges the next generations will face, how they will come up with the money, how they will come up with the resources to build up their streets, highways, sewers and water treatment delivery systems. Mr. Rupp also commented on the talent, the human resources it takes to operate these enterprises, the average age in this organization is in the high forties with the average years in service is over twenty years.

This is not Google, this is not Apple, this is not Microsoft, this is not what the contemporary companies; to attract bright young minds, it is tough to find people, hard to keep people and it will get worse as we look forward to time. We really need to think about career solutions to dealing with talent challenge.

Presentation – Organizational – Mr. Steve Rupp, Vice Present, Engineering Solutions, Leidos (Attachment 3)

Mr. Rupp said that we need to rethink about what is our role as an enterprise as an organization to manage talent and how hard should we be working to recruit, to develop and to retain. Technology has become pervasive in this industry. Mr. Rupp stated that he likes to think technology really should not be thought about anymore as the computer on the desk or the iPhone in the pocket. It has really more become part of the infrastructure itself. It is in the equipment that installed at the substations and devices installed in people's homes. On poles we use to operate by control over at the distribution system.

Mr. Rupp said that if it is infrastructure it needs to be planned, operated and maintained. That is a real change in the way utilities are thinking. Distributed resources this infrastructure was built to deliver energy from centralized power plants through transmission and distribution systems to homes and that is changing. Now we are being asked to operate a two way distribution grid. Mr. Rupp stated that it was not designed for that, it was never intended to do these things.

As previously discussed, the upcoming potential for the home battery energy storage that will change the landscape. It will be more interesting with solar being put on your home that charges up the batteries. At night there will be excess power flowing back into the distribution system which was never designed to do that.

There are markets that are changing dramatically again; originally we had a nice monopoly here we built power plants, shared in building power plants, provided electricity for the customers, set them a bill, they sent us a payment and the relationship goes on, but the markets are changing dramatically. The Demand Response is becoming a commodity which will be treated just like generations participating in the market.

When we discuss the ability to operate your resident's electric hot water heaters to turn them off to shave peak demand, the markets are will treat that like turning on generations, we have prices to associated with it and this will be incorporated into your portfolio. It is very complex and fast it is different from the way we will have always done business.

Mr. Rupp stated that consumption is on the decline. He was at a presentation two weeks ago in Carlsbad, California with the Municipal Utilities Associates Tom Henner, presented a graph from Intel Resource Institute that showed the first time in history the relationship between gross national product capita and energy consumption per capita has changed. Now we are producing more per capita GNP with less energy per capita, it has never been that way. It is a real result in the investments made in energy efficiency, conservation and distributed generation. Mr. Rupp stated the challenge for RMLD and the other utilities is in order to make that sustainable to make it work you need to have a rate structure that allows that decline in revenue without going into your fixed operating costs. If you cannot recover a fixed cost operating the utility from that revenue stream, the utility cannot survive. Today, every kilowatt hour the customer reduces their consumption a little bit of that, a little slice of that, is your fixed operating cost that you are not getting that revenue from. The RMLD is making strides to change that to make those corrections a little bit in the last rate redesign, but you have to pay more attention to that as the distributed generation becomes prevalent in the service territory.

Mr. Rupp said that to cherish retirements the investments to be made in centralized coal and nuclear were great when power was almost too cheap bare nuclear and very inexpensive to coal plants. Regulation, legislation and political agendas have changed that landscape greatly as coal plants are dropping off and nuclear power plants are not too far behind them. Mr. Rupp doubts we will see nuclear or coal completely gone, but it will significantly reduce replaced by natural gas and renewable resources. In this particular area there is not enough natural gas capacity to serve the demand. There is not enough pipe line to deliver gas to generation resources in the area, as a result prices are getting more dramatic that is another real threat. When all that is stacked up that is a lot to think about for this utility to survive going forward. The RMLD asked us to come in with questions in mind, but what we need to do to make the utility, in terms of its organization and structure, to survive through these kinds of changes. Mr. Rupp explained that his company looked at four main components of the operation, we performed a current situation analysis as we sat down and interviewed nearly half of the staff, all senior managers, talked about these challenges, what working, what is not working in order to obtain a good idea of the current state of the utility.

We performed a benchmarking study to look at across twenty plus metrics on how RMLD compared to its peers in the regionally as well as nationally. Some of the electric utilities benchmarked were Peabody, Taunton, Danvers, Holyoke, APPA and NEPPA to compare how RMLD measured up and we will share those results with you. Mr. Rupp stated that an abbreviated compensation benchmark compensation survey by looking at some critical positions in the utility and how RMLD compares to the market, is there an answer in there that might help you understand what is needed to be done in order to address the retention where there have been issues.

Mr. Rupp noted they also looked at the overall effectiveness of the organization and how the management team is working together, is work getting done that is budgeted for, those kinds of issues.

We performed a best practices review looking at twenty five best practices that we believe are important for a utility, provided an assessment about how we think RMLD is doing and made some recommendations. As a result, we had fifty two recommendations prioritized and put into a schedule as a conclusion to the report and what we think RMLD team needs to look at and decide what they want to take on in order to move forward.

Presentation – Organizational Study – Mr. Steve Rupp, Vice Present, Engineering Solutions, Leidos (Attachment 3)

Highlights of the current situation analysis:

- The utility is definitely in a state of transition with a lot of work to be performed.
- There is new management that has been here nearly two years that is highly in-tuned to the challenges the industry is facing, highly in-tuned to this utility needs to do to be prepared and is looking for the right solution to be able to successfully manage the change that needs to happen to get through it. Mr. Rupp stated that there are some great success stories about what has been accomplished in this time period, there is a lot more that remains to be done.
- The RMLD performed a Cost of Service Study resulting in a rate redesign was undertaken in 2013 with some initial changes have gone into effect there are some other rate changes that are coming in the near future, those are excellent moves at what a utility should do.
- One of the nice values of public power is that RMLD has local control; has the ability to make those kinds of critical changes to the business and that gets reflective as to how the financial community looks at RMLD in terms of investment grading RMLD gets when it is time to go out to borrow money to replace aging infrastructure, RMLD gets rewarded for that local control, it is a huge value. RMLD does not answer to shareholders that live outside the service territory, your shareholders are your neighbors and the community that reflects their values, their priorities and needs, they may not always agree with you, but they get you. That is something in which you all should be very proud.
- RMLD has made improvement in the procurement process some of by design and some out of necessity which were important strides.
- Improvements in financial reporting which has to do with contemporary idea of unbundling the rates in order that the RMLD can look at the cost of service from the generation transmission distribution side in order to manage the business against those unbundled characteristics. That means having to change the financial reporting to be able to look at that to compare a budget and actual performance based on those unbundled categories and RMLD is making very good progress.
- A lot of work is starting to the Career Development Plans that is in recognition of the need to be able focus on the talent that RMLD has here because it is hard to recruit people, not a lot of people interested in coming in to this industry. It is difficult to attract them, the number one priority should be keeping people we have and helping them move along in their careers which means putting together plans for training, making clear to them what the expectations to be able to advance and RMLD is making great strides in this area.
- Current efforts to improve internal communications have been well made and a reflection of that is that we had an all-hands meeting where Mr. Ken McNeil from Booth & Associates and Mr. Rupp had an opportunity to gather and present the same briefing to anyone who is willing to attend and there was a full house. There were some tough questions asked and basically people are beginning to understand, appreciate what lies ahead. Soon we should see who will be onboard and want to part of the solution or not that is the next step. Mr. Rupp stated there were great questions today from the Community Relations Manager noting that he overlooked the communications elements of the study's results and she called me to task, had great dialog. We discussed how important communication is both out facing the customers and the community RMLD serves as well as inward. Some of the old command control structures that were here and that is very typical of this industry, small utilities, very strong manager, very well structured silos and communication was always from one silo or manager down to the next silo and where it needs to go. A lot of utilities grew up that way, tough to survive, but we are facing the need to not operate that we see those silos coming down and that is the very important progress.
- Mr. Jaffari is working very hard on a technology roadmap and we review that they are very much on the right track. Again, there are opportunities to do more and road mapping is a strategic plan, it is not a destination it is a journey. This is the kind of thing that technology changes quickly and RMLD must continually look at your assumptions, choices and decisions, firm them. When they do not make sense make an adjustment going in one direction and see a lot of support. We have seen a lot of that happen here and that is terrific.

Presentation – Organizational Study – Mr. Steve Rupp, Vice Present, Engineering Solutions, Leidos (Attachment 3)

Highlights of the current situation analysis:

- Getting on top of the maintenance a lot of time has been spent in trying to figure how to prioritize and where to focus in looking at the maintenance of the infrastructure. RMLD has had some strong signals from the infrastructure itself about what to pay attention to, transformers begin to leak and fail which is a good sign that we need to pay attention.
- Become more proactive and less reactive in taking care of those maintenance plans that are in the budgets that were presented. You should feel confident that your utility is doing the right thing and focused in the right direction.
- The current Human Resource processes is here and in our opinion have not caught up with where they need to be to face the challenge that RMLD has coming ahead. This type of HR structure that is in place now worked well twenty years ago, but it needs to change. People are not fighting to come to work here, its difficult to find people it is important to think creatively and put more energy into recruiting. Many of the people that are here are very far along in their careers and it is getting to that point where RMLD is at risk of how to keep these valuable assets motivated and excited about embracing the challenges that must be solved when they may not be here in another three to four years, that is not an easy task. You have to try to find some way to get value out of the last two to three percent somebody's time and investment if you are going to build a new company.
- Mr. Rupp commented that they have seen signs of that taking place. Succession planning is starting, there is a lot of work to do around succession planning still, RMLD is vulnerable in a lot of areas where there are key people have been in positions in a long time. If they were to leave tomorrow there will be a big gap to fill and RMLD is not prepare for it. That is a priority. Mr. Rupp continued noting the current Organizational Structure is less efficient with the utility. The current organization is the legacy was built out of necessity, it is a reflection of decisions that were made to solve problems with the least amount of pain. For example, people that could not work together as constructively as they might otherwise that problem was solved by putting them in different parts of the organization that solved that particular interpersonal problem. This perhaps was not the best thing for the utility to do in the long run. This must be looked at and plan what is the best organization structure for the what we have to do going forward, figure out how we are going to transition there and get beyond decision that were made in the past.
- There are a lot of opportunities for the leadership team, by leadership team here, anybody who is a supervisor and manager and above. Lots of opportunities to really work on what leadership means, what are the responsibilities of leadership that go beyond just being able to check off the tasks that are on the to do list every day, mentor it, team building, coaching, decision making, prioritizing, time management, these are kinds of things that are good qualities in an effective leader. Mr. Rupp suggested that creativity is another important attribute and that is something that cannot be taught you have to more nurture it and try to find those people that are creative and help them gain positions where they can make up for those that maybe are not as creative. Those kinds of opportunities exist and we have ideas improve that in the organization.

Mr. Rupp stated that is the current situation analysis. Mr. Rupp provided a brief overview of the benchmarking. It is hard to summarize this when you have seen the report there are fifty slides on this, a lot of detailed information that requires some thought and consideration. We have tried to put it all in perspective and try to raise it up to right level. Mr. Rupp noted that in most of the benchmarks the utility is performing well. He put an asterisk by some of the things that need to be looked at very carefully particularly the last two, the distribution operating and maintenance expenditures per circuit mile. Generally speaking, when those numbers are lower it could be a sign of efficiency that RMLD is not wasting money, but if not spending enough money the results could be misinterpreted. The net metric may be better than the average, it may not be a good thing it can be warning sign. RMLD is in the middle in terms of financial performance and that is improving due to the adjustments that have begun to be made to deal with declining kilowatt sales. Mr. Rupp stated that based on the rate changes that were made RMLD will probably see some improvement in the operating income and the operating ratio which might be moving back toward the average. Mr. Rupp recommends reviewing these benchmarks at least once a year. A strategic plan can incorporate the benchmarks.

Mr. Stempeck asked that on a quantitative basis on performance measures is there any reason we cannot add this to the same quarterly of the dashboard that we have talked about or do a monthly dashboard or every six months? Mr. Fournier replied that it can be done. Mr. Rupp added that he cautions to pick the right ones if you are going to look at it that frequently particularly things like and operating and maintenance expense. If you set a quarterly goal then it could be measured against quarterly progress, but generally it is annual. Mr. Stempeck stated he wonders if the data could be generated from the metrics. Mr. Rupp answered that many utilities look at that on a regular basis, but particularly things like the operating income and financial statistics that represent performance on a monthly or quarterly basis. It is very common for utilities to report those and put them on a chart that is presented to the Board. Such items as reliability outages statistics is reported, power costs, etc., are reported to the boards.

Presentation – Organizational Study – Mr. Steve Rupp, Vice Present, Engineering Solutions, Leidos (Attachment 3)

Chairman O'Rourke stated that Mr. Stempeck's point is good and in a high level on a regular basis on an annual matrix. Chairman O'Rourke asked that relative to the per customer matrix and asked whether attempt to normalize since not all customers are created equal? Mr. Rupp replied that it is done in the narrative.

For example, if the comparisons per customers are done against Holyoke (the one that is much smaller than RMLD) the dominator drives their numbers up, their values are skewed by RMLD's, there would need notes for a reminder that there are differences in their utility, don't try to mathematically normalize it. Mr. Rupp said that they stick with the APPA methods then we do not have to explain our approach if we conform to what the industry is doing.

Chairman O'Rourke stated that what he meant was there may be some huge commercial advisors that are here in Reading that is a customer and Board members are customers, it is a service level benchmarking on customer service, it probably is true that the amount of service required for those are different noting that he just wanted to factor it in to our grand scheme of things. Mr. Rupp explained that it does not mathematically, but it does a qualitative assessment if there is an interpretative results.

Mr. Rupp then noted they looked at the salary comparisons of selected positions and there is room to improve in some areas that may be a little over the market than others. In general the salary and compensation are not limiting factors for RMLD in terms of the ability to retain, there is a good program here. The bigger challenges are getting people are just not interested in getting into this business and investments that need to be made for the stem programs and working with community colleges to developed interest. RMLD is also competing against National Grid and the other larger players who recruit, they go out to colleges and recruit. They also have internships for students. There are a lot of tools out there to look at. Chairman O'Rourke stated that that his company which is an industrial specialty manufacturer has the same challenges. They found in recruiting strategies is to focus on their company has a huge environmental impact due to the use of their products, environmental friendly aspects because that has raised interest in their company for some out of college applicants because they are conscious of energy, the environment, etc. Mr. Rupp agreed noting that the recruiting strategies are out of date and recruiting today the same way as ten to twenty years ago does not work.

Mr. Rupp stated that he looked at approximately twenty-five best practices categories and the typical quality that we think of about best practices. The RMLD could set the standard in some areas in terms of what the IT Department has done, it is very impressive and sets the bar. RMLD has the luxury of having an IT Department in this organization because in many municipals IT Departments like this are over at the town and it is a shared resource serving public safety, they are serving public works and the utility gets a slice of their time.

Having best practices, competitively prices services is all a good thing. RMLD is still limited in the 2008 Strategic Plan, which stated RMLD wanted to be the low cost provider that is not a sustainable strategy. The RMLD needs to be look at to decide whether to invest and update the 2008 Strategic Plan. RMLD needs to be competitive, needs to be fair, but it costs the organization, it costs the unit price to be the low cost provider especially to sustain this over a long period of time. Being a low cost provider is a market infant strategy and is not a market survival strategy unless you are able to be creative and RMLD is paying a price and trying to catch up in some areas.

The resource efficiency and conservation side, RMLD are doing an excellent job and the demand response in the public power space is not really widespread yet, but is growing. There is a many programs for customers, but work needs to be done in the outreach and marketing those programs, but there is a wide selection to look.

On the other end of the spectrum there are some areas that RMLD is behind the curve. RMLD needs to invest time and energy that is the work force development, organizational effectiveness, leadership development for management, and project management. We talked about most of those issues although RMLD has some exciting themes to work management Mr. Uvanni and Mr. Jaffari are working on, automating the service and work order process and pulling information out of the field to learn where it is needed. RMLD is at the beginning of that journey, but moving in the right direction.

Project management there is a lot of room to improve. With project management it is important to be sure the work is getting completed. There are many reasons why that may not be happening, but we can always do better. Not everybody can be a project manager, but there are some that are very good it. What Mr. Rupp sees some utilities do that are struggling in that regard is go out and hire people who are really good project managers, give them a portfolio of work who are not subject matter experts, electrical distribution engineers, they are really good project managers. They will own a project and they will pull in the resources that is need to get that one done that is a strategy you may use. As RMLD gets the opportunity to hire new people hiring people with a project management professional certification is an important. He is encouraging the RMLD to put that into job descriptions and prove that kind of training for your employees to help them improve their project management skills. There are areas RMLD is doing very well such as GIS, safety, risk management and energy planning.

Mr. Rupp stated that some of the key areas such as work force developmental involves forecasting the future work force needs and in this meeting the Board approved a \$10.5 million budget, but none of you asked how many people is it going to take to get that work done and will we have enough.

Presentation – Organizational Study – Mr. Steve Rupp, Vice Present, Engineering Solutions, Leidos (Attachment 3)

Mr. Rupp noted the short fall in understanding the work force needs going forward is the succession plan for key positions as we discussed there are many employees that are nearing the end of their careers. These employees carry a large amount of responsibility for the enterprise. There is nobody yet to back them up if they leave. Mr. Rupp pointed that Ms. O'Brien and her team are working on succession plans but there is still a lot to be done in that area.

Mr. Stempeck asked if Mr. Rupp has done work in the succession plan area and noted that in private industry many times the senior managers are in charge finding their successor and developing them is part of their reward within the compensation system. Mr. Rupp replied that he has done work in succession planning. However, RMLD is encumbered by a couple of things the civil service structure does not promote that, most of the workforce is part of a collective bargaining unit therefore succession planning is prescribed by the next person with the number years of service as the successor. They take care of that from a math problem, but it does not solve getting the work done problem, it does not mean the person is succeeded by the right one. What we do in succession planning is help develop succession plans by identifying successors, help develop the redevelopment plans for those people to get them on the right track. Mr. Rupp stated that the most the job descriptions that RMLD have are out of date, they do not reflect the challenges going forward, and they do not impress the work force that you are trying to attract. The study encourages RMLD to invest in updating those to prepare.

Chairman O'Rourke asked if that was a challenge in benchmarking the compensation since the position descriptions were outdated, but maybe having the interviews help clarify what employees do. Mr. Rupp answered, yes, Leidos had to make sure they had to put in a lot of thought when comparing the right positions in the other enterprises to be sure they had the right things. Leidos did not delve into the position descriptions to see if they were appropriate. Most of the other utilities are in the same position facing the same challenges.

Mr. Rupp pointed out that consistent performance appraisal process is one of the issues here because of the collective bargaining unit agreements that were struck, designed with the incremental increases that are prescribed to you. Less emphasis has been on performance appraisal then the mechanics are getting it done, you need to make sure you understand how important that is to RMLD and put the right level of effort into getting it done. For new people coming in not having a meaningful performance appraisal system is probably the reason they will not stay, if they do not get the feedback and see a path forward to understand what they can do, it will be difficult to keep their attention, it is less important for somebody who is much further along in their career.

Mr. Stempeck asked Mr. Rupp that to think about all you have done for other utilities is there one that stands out in your mind something that RMLD could copy? Mr. Rupp answered, yes, they do it brazenly every time we engage and see something that is working very well that sets the bar for our customer, share it, you can do it amongst yourselves and there are lots of examples out there. Mr. Stempeck said that perhaps later, you can point us to one or two of them as a model. Mr. Rupp explained that it is not a lack of data that is the challenge, it is more representative of what you are working on and take advantage. Chairman O'Rourke said that based on the presentation it speaks to pay for performance structurally it is not tough because of way things are structure. Mr. Rupp added that it is a trend in the utility industry. Ms. O'Brien pointed out that she changed the lineworker and technical services group for performance based step raises. The next challenge is middle management. Mr. Rupp added that accelerating recruiting efforts is really important. Mr. Rupp commented that as far organizational effectiveness some of the changes have been made. Mr. Rupp said that they are recommending the Engineering and Operations Division, Accounting would be Finance/and Accounting Division broader, process improvement and project management. What the RMLD has now is standard. Some of the things in the Engineering and Operations has been moved to Accounting/Finance in order they work on the grid assets. They are proposing a fourth division Customer Service will be focused on where the rest of the world is heading. Municipal are in the Stone Age when it comes to customer service compared to the private sector. It is up to Ms. O'Brien and her team to decide of where the RMLD is today and how to get there. Let's get away from working from people problem as to what is best for the utility.

Mr. Rupp said that communications is always a big deal especially when you trying break down silos. Mr. Rupp stated that it needs to be planned out and make commitments to what communication to do, how frequently, what is the content, who is the audience, how to measure the effectiveness and take it on as a serious business function not as just another thing that gets done.

Mr. Rupp stated that if RMLD is going to make changes to improve the organization and it cannot be quantified that improvement RMLD is probably not going to understand how successful you are. There are some tools to set the benchmark. RMLD will need to go through and survey an instrument to try an establish the difference between what an individual's values are in terms of a number of difference measures that you can come up with, whether its ethics, honesty, accountability, etc., and how the individual sees the organization. When there is a big gap between how an individual sees themselves and how that individuals sees the organization, that is a cultural entropy, which is unorganized energy that is sitting there waiting to do something and it is generally not something that is good, its goes to negative places within the enterprise. Mr. Rupp noted that if RMLD can minimize that cultural entropy, people move into a place where they are more willing to accept change, they are more trusting and they are willing to take more personal risk possibly signing up to take on a task, a tactic or a strategy to make improvements, it is the direction RMLD wants to go.

Mr. Rupp noted that this instrument gives you some measurements where the culture values lie. Over time allows you to take that survey every year or every other year to see if you are making progress towards where you want to go.

Presentation – Organizational Study – Mr. Steve Rupp, Vice Present, Engineering Solutions, Leidos (Attachment 3)

Mr. Rupp stated that Leidos has the same thing as an employee survey with an anonymous serving process where Leidos would design the survey with RMLD to come up with the issues that they think are the most important to get a metric back on satisfaction, longevity, what is important to you; there is a whole list of questions. You come back and look at the results. It may give results such as 30% of employees are very satisfied, 30% are somewhat satisfied and 40% of employees are not satisfied at all.

Mr. Rupp continued, RMLD could say the goal is to reduce the number of unsatisfied employees to 20% in two years. The RMLD implements some changes, makes corrections and comes back in two years later and redo the survey to see how RMLD is doing. That is just one example and Mr. Rupp stated that is an important thing to think about.

Leadership development, Mr. Rupp stated before RMLD invests in significant organizational changes Leidos thinks RMLD needs to take a good look at the leadership teams. This goes at least from the General Manager to the Directors and the Directors' direct reports at a minimum is the right level to look at. The leadership assessment is much like the cultural values assessments is much more focused and detailed. It reflects how an individual sees themselves and then you select fifteen or twenty individuals that are impacted by that figure and they provide their input. Now you get to see how managers and supervisors are viewed by their subordinates and understands the Euterpe between how that managers sees themselves and how employees see that manager. You look for the limiting factors that may be overcome to allow that manager to be more of an effective leader or to understand where you can't set expectations that are beyond that leader's ability. It is really important to know that as you think about what you might do in terms of the-organization.

Chairman O'Rourke asked Mr. Rupp if that is similar to a 360. Mr. Rupp answered, yes, it is the Barrett Learning Center version of a 360 which is done by a third party. Leidos does not perform this because we hope to have a relationship with the organization that allows them to get value out of the investment that you paid in getting here. Getting to that level of detail with individual leaders in the organization could lead to a compromise their trust they would bring an independent expert in and they would do that part. Then Leidos would come back and provide an opinion. The woman that we use is very effective and has magical ability to be very forthright and clear with some of the worst cases she had to deliver. Mr. Rupp stated that he already talked about management, leadership and training converging element plans. A lot of focus is on technical skills and other kinds of things that provide improvement and management leadership skills training has been discussed. Team building to build trust would be good. Then we crossed additional edge particularly in an environment where the worry is succession planning the idea of giving managers an opportunity to spend time in their colleagues' shoes in other parts of the organization is a good idea even if it is one week. Mr. Rupp stated that project management recommendations were talked about this at length. RMLD needs some project management policies and procedures, better training, hire some project manager experts and establish expectations of those that have project manager responsibilities. Mr. Rupp commented that RMLD are the Flintstones when it comes to work management like a lot of utilities, there are still paper timesheets, time lapse when the entire work is done, feedback about whether that work was done well. Utilities that are implementing modern work management systems there are a lot of solutions available working with them with utilities accounting structure for FERC accounting, the way work accounts are set up, the way work orders are opened and managed - it automates that process, it makes information more useful to those trying to make decisions or trying to forecast future work force needs, etc. Business processes need to be documented there only a few documented.

Mr. Stempeck stated that sometimes that is a function of the skills for an organization in terms of what level technology you want to implement, it is always a cross between paper based, systems and modern technology whether its mobile based or computer. He assumes that his assessment would go beyond needing that type of management technology. Mr. Rupp stated RMLD is scratching the surface of it now, there is no work management automation here at all, a little bit. The people that need it the most see it and they are working on it. The work management solutions that are being worked on will improve the success of meter reading upgrade project that is coming down the pipe line that is something that could expand. The real parts to make it work and one of the hardest things is try to get away from the idea to go out and buy a system that is customized for the organization. Once that is done trying to keep it up to date becomes almost impossible. There is constant customization it is easier to retune your business processes to fit a tool that can help adjustments will need to be made as things are done differently. The ability to manage what you have is important. Getting the right thing to done timely. Leidos provide fifty two recommendations and prioritized it over 3 ½ year limitation schedule and this the first step in this prioritization. Ms. O'Brien and her team will look at this and decide what they want to do first, second, etc., but the road map is there.

Chairman O'Rourke asked Mr. Rupp from a Board perspective if there is anything recommendations from the Board's perspective that should be done short of supporting the General Manager and the team and is there anything the Board can do. Mr. Rupp stated that their assessment is that the Board has made some really smart decisions about who they have brought on to run the utility and trust the decision you have made. Mr. Rupp said that not to make it too complex or pick the wrong metrics it will fail. If you decide to move forward into a strategic process and helping set a vision that the utility can work to is very important. Mr. Rupp suggested the APPA National Conference in which there are workshops for commission members in which addresses strategic plans.

Chairman O'Rourke thanked Mr. Rupp and his team stating the study has been very thorough analysis and provides a roadmap for going forward. Mr. Rupp thanked the Board.

Future of Climate Committee

Chairman O'Rourke acknowledged Joan Boegel and Gina Snyder from the Climate Action Committee. The background is need to discuss the future of the committee. Mr. Talbot said that he spoke to the Town Manager, about this and next Tuesday the Reading Board of Selectmen will be meeting with the Climate Action Committee (CAC) what the future will be because the CAC is slated to finish on June 30. Mr. Talbot said that the town needs the voice of the CAC, the emission reduction strategy and sustainable strategy. Mr. Talbot hopes this committee continues. Earlier stated in this meeting if the RMLD can if we communicate with a thousand people for water heaters two megawatts can be shaved off RMLD's demand. Chairman O'Rourke said that he supports the great work the committee does.

Ms. Snyder thanked the Board for letting them come up earlier on the agenda. The CAC has worked in Reading for over ten years. One of the first initiatives was with greenhouse gases and the RMLD was extremely helpful. RMLD is a wonderful partner when it involves electricity and energy efficiency. The biggest emission was from transportation and have done a lot in that area. Sustainability, recycling, Green Sense column in the newspaper as well as school outreach. Ms. Snyder said that they would like to work with the RMLD to form a committee to focus on electricity. The CAC said that she is working with Mr. Ollila on the community solar program which is outgrowth of the local energy plan. Mr. Stempeck asked if other towns have similar interest. Ms. Snyder replied with the new town administrator in North Reading. Chairman O'Rourke said that the RMLD serves four towns. Ms. Snyder said that have had workshops with other towns.

Mr. Talbot said that the CAC will advocate to be a committee still under the Board of Selectmen. Ms. Snyder commented that she is in agreement. Mr. Pacino said that the Board of Selectmen should support the continuance of this committee in order that they can do their work and the committee take this message to the selectmen. The Board was in agreement.

Presentation – Reliability Study – Ken McNeil, Operations Manager, Booth & Associates (Attachment 4)

Mr. McNeil began his presentation on the Reliability Study noting that this study touched on more than just the electrical side; it involved every aspect of the electrical system. During the field assessment Mr. John Sidebottom, from our substation and protective coordination department, examined the substation facilities. Mr. William Parish and Mr. David Hufstaf spent a week to examine as much of the system, pointing out any observations relative to NESC compliance, aging condition of the facilities and how construction standards and processes that are employed by the utility, how they measure up to the standard utility practice. In general, most of the substations were in relatively good condition, there were general maintenance issues that need to be addresses and we have a long list of recommendations. A few of the situations that need to be addressed with the highest priority in most cases it was the condition of the fencing around the substations because they must meet the code as far as height, the wiring around the top and the grounding. Some of the fencing area were not grounded which can pose a safety risk to the public as well as employees. Substation 4 especially had a lot of vegetation trees overgrowing although those are just typical things that need to be addressees. Also, at Substation 4 it was found that the neighbors on either side of the substation had a pile of wood cord put up against the fence that is not a good situation. Animals tend to hide in the wood piles and snakes can do real damage when they crawl in the substation. In some parts of the substations there were erosion issues and a lot of these are easy to take care of with some gravel, but basically just general maintenance.

Mr. McNeil stated that the bigger pieces of equipment, especially at Substation 4 and Substation 5, there were concerns about overall age and condition about the transformer situation. In conjunction with the time we were working, Mr. Jaffari had another group come in testing the equipment. It was our recommendation, to continue monitoring these older transformers. There were other issues with the planning side which Mr. McNeil stated he would address with Substation 4 and Substation 5, but in the recommendations in time a replacement of all these transformers and breakers at least if the condition does not dictate transformer 4 and 5 to be replaced, monitor age and monitor condition. In a long range planning aspect at least when these transformers get into the forty five to fifty year old range there needs to be a place in a long range budget to plan for those replacements.

Relative to the distribution side, one of the deficiencies found were the lack of a specific construction standards; the system varies in ages, there may be some areas that were constructed sixty plus years, forty plus years, and some new construction.

There is a variety of pole top assembly those types of things, a myriad staff, based on the interviews, with at least manufacturers standards for their construction practices, recently have implemented National Grid and APPA standards have been added. Mr. McNeil stated that he recommends that a set of construction standards specific to RMLD because there are situations out in the field where there are multiple circuits on one pole line that a generic construction standard will not address.

It goes back to the succession, RMLD has it standards, the designer specific standards which will allow the subsequent employee a standard to follow for design and build. Mr. McNeil noted that with the design standards not only are there construction standards the RMLD is trying to implement new design standards. In the past, based on our observations, that a lot of construction has been done by "rule of thumb" engineering and, "this is the way we have always done it". If you are hanging this size wire you use this size pole, there were no engineering calculations that backed this. One of the recommendations was to implement a set design procedures for proper pole sizes, proper guy standards, equipment sizing and again a construction guideline.

Presentation – Reliability Study – Ken McNeil, Operations Manager, Booth & Associates (Attachment 4)

Mr. McNeil stated that this way everybody is on the same page. We ensure with our designs that we are meeting the National Electric Safety Code Standards. One of the benefits of doing this is to be in compliance and limiting liabilities, there are accidents on poles that do not meet standards. Mr. McNeil stated that another deficiency that we recommend taking another look at the joint use agreement, if this has been alluded to earlier in this meeting that the current agreement was executed in January 1, 1980. It does not address many critical issues of engineering and construction maintenance standards that were agreed upon between the two entities. When RMLD gets into implementing their own design standards that meets the code. Then to have a third party, such as Verizon, come along and attach to that pole without proper notification, proper re-engineering of that pole to make sure the calculations RMLD did to make sure that pole is the right size for strength requirements, that Verizon does not come in and overload that pole creating a code violation and equipment clearance for substation poles, opening RMLD up to a liability. Mr. McNeil stated that is one thing that is missing from the current standard, another item is the inventory attachments, knowing where they are attached to RMLD poles, knowing whether RMLD is attached to their poles. It is unclear about the rental agreements, but there is a value of each attachment, you want to ensure that everybody understand what these agreements are, on the same page about the number of attachments and what the value of that space of the pole is.

Mr. Hennessy asked if by “value” Mr. McNeil means a financial value of the space of the pole. Mr. McNeil replied, yes. In most the utilities they work with down south the power company owns all the poles. Third parties that come in attach pay for that space on the pole. Mr. McNeil continued with liability issues stating that when RMLD attaches to pole that Verizon owns, two thirds of the poles that RMLD is attached to have “Verizon” on it. RMLD must be aware of the loading and not creating a liability or clearance issues when attaching to that pole. Thus, RMLD would want to do the engineering minimal construction standards that they understand that RMLD will build this pole line to NESC Standards. Part of that is notification of attachment because once you design that line you want to know if anybody else attaches and changes those conditions on that pole.

Mr. McNeil stated that relative to the current Pole Inspection Program only addressed the RMLD owned poles, but his recommendation is that program be negotiated and expanded into that area. The reasoning is that two thirds of the poles that RMLD is responsible for potentially being held liable for there needs to be inspection processes, the current program has been set for one year now. There has been a thirty percent failure rate on the poles that RMLD has control. Based on their observations when they were in the Wilmington area where Verizon owns the poles is that the poles appear to be older in that area and a smaller class. You could likely expect that failure rate continue or increase in that particular area.

Mr. McNeil stated that on the Maintenance Programs they were looking at transformers age and condition, although there have been some programs implemented recently on the operations and maintenance to actually come out on a cyclical basis to perform tests on the transformers. These are the major pieces of equipment, major investment on the system and it is important to monitor those to make sure they are not starting to have gas or water forming inside the transformers or something that would lead to a failure. The Pole Inspection Program another recently implemented program with the central poles that should be sustained. The Grounding Program is very important because some of the observations that were made during just the routine field visits were the copper pole box coming down to the ground rods are broken are some poles, transformers are seen broken, ground connections and the substation fencing missing or cracking. It is a critical part of system operations from a safety issue. Mr. McNeil noted even if new breakers and relays to deaden the line when the fault occurs, but they count on a strong grounding program. Vegetation Management just recently went through a three year cycle; trees are the number cause of outages even with the covered cable and conductors, it is heavily treed in this area. The vegetation management saves RMLD from a lot of momentary outages because from trees brushing into lines, but those trees get brushed and rub on the line can degrade that outer insulator around the cable, moisture gets inside the cable and that is the enemy of the life of that cable. Mr. Stempeck asked how the grounds were broken, stress fractures. Mr. McNeil replied that most likely it is from people cutting their lawns.

Mr. McNeil stated that one area found lacking is a long range system plan, typically systems are expanded on a ten to twenty year period, in order to get a directional as to where you want to take the system. From those long range planning a development of short term capital improvement plans that are based on that long range philosophy. The critical hold establishing a planning program is to establish a design criteria, how much do we want to load the substation transformers, how much do we want to load distribution circuits, the delivery voltage and how you want to operate your system provides a roadmap of when you analyze your electrical system on what type of improvements that should be added and what priorities should be added. Developing a system model is underway, will be part of the GIS Update and the software will be able to load the GIS information into the Omni Software, load the customer information into the modeling software, there will be a real time as built model with real time loading and will give you peak conditions as well as knowledge of present system conditions for voltage compared to AMI reads.

With the SCADA System Upgrade and the AMI, RMLD will be able to get substation and transformer loading data, distribution circuit loading data that can be used based on five to ten year history for projections. Thus, having a good long range plan and referring back these projections when performing the short term projections saves money in the long run. Mr. McNeil stated that they created basic model and conducted a voltage capacity analysis using the model and projected loading with a loss during 2014 of 3.7% for a utility this size those numbers are in good range. Although, system losses are the same as system reliability, you want the numbers as low as possible. Substation transformer loading and contingency loading is something that needs to be addressed. Catastrophic failure of one transformer is a rare occurrence, but you want to analyze those positions and know where you fall.

Presentation – Reliability Study – Ken McNeil, Operations Manager, Booth & Associates (Attachment 4)

Mr. McNeil said that circuit getaway loading is one major issue that the RMLD needs to look at. Eight or nine circuits are currently loaded above the one hundred percent of the D/d rated capacity. Eighteen circuits are loaded above sixty percent above the D/d rated capacity. Mr. McNeil commented that in load shifting based on these factors mentioned can attribute to reliability with the underground duct with slices failing and elbows failing due to the heat buildup.

Mr. McNeil stated that one of the major projects that he recommends is to identify the loads under the Wilmington area, a large portion of this utility's load is centered in that area. There is a large high frequency load center sitting adjacent to a transmission line. The recommendation is years three through five it will be multi-year process to construct that station, is to propose a new Wilmington substation in that area. This will relieve the loading on the transformers as well as the circuits.

Mr. McNeil stated that one of the questions asked in the RFP was if RMLD is spending enough on O&M, what should RMLD be spending on O&M, which is an open ended questions. Mr. McNeil explained that typically you look at the life of the facilities, manufacturers have life for equipment, depreciation schedule with a thirty to thirty three year depreciation life. Although we know there are facilities that will last longer. Using a forty year window logically you are looking at rebuilding your system every forty years through operations and maintenance. You should be spending at least 2.5% percent of the net plant value on system upgrades or operations and maintenance projects just to keep pace with the loss of life with these facilities. From Booth & Associates observations looking at approximately at the median twenty years of age, a twenty year window, we estimate that the blended average life or age of the system is in excess of that twenty years, it may be accelerating ahead of that 2.5% each year.

Mr. Talbot noted there is some extensive programs that Ms. O'Brien and Mr. Jaffari have outlined to the Board, do you feel that what has been sketched out is covering a lot of this? Mr. McNeil answered, yes, these programs are all implemented. Mr. Talbot asked what needs to be done that has not been implemented. Mr. O'Neil added the expansion of the grounding program, implementation of a detailed coordination study, expand the use of protective devices with reclosers. Mr. McNeil said that they have had discussions that all the programs are industry standards.

Chairman O'Rourke commented that a piece of this is validation, an independent opinion to confirm we are doing the right thing. That is in itself is very important. Chairman O'Rourke pointed out with the Organizational Study there are areas that need to be targeted going forward. Chairman O'Rourke used seventy percent stay the course and thirty percent of accelerated programs. Mr. McNeil pointed out as you implement these design standards, pole guy and sizing in conjunction with the pole program many poles have been replaced. It provides an opportunity to implement these standards. Chairman O'Rourke commented much of this involves standardizing versus being reactive. Mr. McNeil said that with the long range analysis there were no major line loading issues that needed wholesale replacement due to the capacity of the lines. Mr. Talbot said that the Board needs to know abstracted one level higher.

Mr. McNeil commented that the CAIDI and SAIFI numbers are below the regional and national average. With the age and condition what is of concern is the degradation and liability. On the safety side, there was the lack of a formal ARC Flash Program. RMLD employees do have the personal protective equipment, but in the interim the ARC Flash analysis has been completed. Booth & Associates supplied technical engineering with the new requirements for engineering and design there will be expanded job responsibilities and training will be available. Mr. McNeil said that the goal is to get minimal of five engineers up to the system engineers.

Mr. McNeil said that the fiber loop and dark fiber were discussed in the study. There are avenues for expanding the grid modernization program with fiber. The RMLD leases the dark fiber. Mr. McNeil said that the study suggest that a comprehensive, realistic study and business plan is developed outside of the core business for fiber.

Mr. Pacino wanted to know what an ARC flash is. Mr. McNeil explained that current wants to continue on a path when you break that path it wants to follow that path, if you open a switch it draws an arc with that comes, heat, pressure, combustion which can cause significant damage. The ARC Flash Study calculates the potential of that energy at different points on the system relative to your location to the blast, magnitude, how quick protective devices work. The study was performed on the system at critical points, that they have the proper protective equipment on which is an NESC, PPE and OSHA requirement.

Mr. Stempeck liked the fact that many of the recommendations were incorporated into the budget. Chairman O'Rourke thanked Mr. McNeil.

Report of the Committee– Vice Chair Pacino - Policy Committee (Attachment 5)

RMLD's Surplus Material Policy 2, Revision 5 and RMLD's Procurement Policy 9, Revision 4

Mr. Pacino stated these policies were discussed at the last Policy Committee meeting with suggested changes.

Mr. Pacino made a motion seconded by Mr. Stempeck that the RMLD Board of Commissioners adopt the RMLD's Surplus Material Policy 2, Revision 5 and the RMLD's Procurement Policy 9, Revision 4.

Motion carried 5:0:0.

Report of the Committee– Vice Chair Pacino - Policy Committee (Attachment 5)

Fiber Optic Update

Mr. Pacino stated the Policy Committee discussed the fiber optic network, it was decided a presentation be made to the Board. A presentation on RMLD's fiber will presented at RMLD Board meeting on May 28, 2015.

Audit Committee

Mr. Pacino reported on the Town of Reading Audit Committee that met on Wednesday, May 13, 2015, noting they met on the Fiscal Year June 30, 2014 audit, the Melanson and Heath audit. The audit is basically they break the audit down into two categories, the general fund (operations of the Town), and the priority funds (light and water department). There was nothing that came out of this relative to the RMLD at this point and no concerns were raised. One of issues raised was the revolving funds, which was also raised at the Town Meeting, the auditors believe that not all costs are being allocated properly against the some of the revolving fund. Their recommendation is that the Town look into that. The topic came up about the School Committee, it is believed that some of the reserve funds have anywhere between twelve and twenty four months' worth of revenue in them, going forward. That is potentially some of the reserve and the revolving funds of the Town may be over funded. The new business manager of the School Committee and the Town Accountant are working out this particular issue. The Audit Committee made a recommendation that the Town of Reading Finance Committee look into this situation and follow up on this.

Mr. Pacino noted that the Chairman of the Audit Committee is also the Chairman of the Finance Committee basically in terms of the procurement Phase I is complete and everything was taken care of and that was an investigation about the trucks. There is Phase II now going on where a questionnaires have been sent out to all the Town Departments asking what their procurement is and they are waiting to get those questionnaires back then will decide where they will go from this point. Ms. O'Brien pointed out that the RMLD has sent in the forms. The Audit Committee voted to accept the audit and the management letter addressing the revolving fund issue. They also voted to authorize the audit for this year.

General Manager

Report on RMLD's Surplus Property

Ms. O'Brien reported that the surplus property based on the policy there is nothing in the sustainable category to report, however, in the March auction of the JOJ Kane in Worcester the trucks were sold, two at \$7,000 and one at \$9,000 that takes into consideration the commissions and the appraisals.

2015 Northeast Public Power Association (NEPPA) Annual Conference August 23 to August 26, 2015

Mount Washington Resort, Bretton Woods, New Hampshire

Mr. Pacino made a motion seconded by Mr. Stempeck to authorize the General Manger to attend the 2015 Northeast Public Power Association (NEPPA) Annual Conference August 23 to August 26, 2015.

Motion carried: 5:0:0.

MGL Chapter 30B Bid (Attachment 6)

IFB 2015-24 for One (1) Digger Derrick with Trade-In

Ms. O'Brien noted the trade in was an older Digger Derrick and the amount for the trade in was \$3,500.

Mr. Stempeck made a motion seconded by Mr. Pacino that bid 2015-24 for one Digger Derrick be awarded to James A. Kiley Co. for \$253,550.00 as the lowest, qualified and responsive bidder on the recommendation of the General Manager

Motion carried 5:0:0.

Power Supply Report – March 2015– Ms. Parenteau (Attachment 7)

Deferred until RMLD Board meeting May 28, 2015.

Engineering and Operations Report – March 2015 – Mr. Jaffari (Attachment 8)

Deferred until RMLD Board meeting May 28, 2015.

Financial Report – March 2015 – Mr. Fournier (Attachment 9)

Deferred until RMLD Board meeting May 28, 2015.

BOARD MATERIAL AVAILABLE BUT NOT DISCUSSED

E-Mail responses to Account Payable/Payroll Questions

RMLD Board Meetings

Thursday, May 28, 2015, Thursday, June 25, 2015. Thursday, July 30, 2015

Policy Committee Meeting

Tuesday, June 2, 2015

CAB Meeting

Wednesday, May 20, 2015

Adjournment

At 9:55 p.m. Mr. Stempeck made a motion seconded by Mr. Talbot to adjourn the Regular Session.

Motion carried 5:0:0.

A true copy of the RMLD Board of Commissioners minutes
As approved by a majority of the Commission.

David Hennessy, Secretary Pro Tem
RMLD Board of Commissioners

**READING MUNICIPAL LIGHT
DEPARTMENT**

***FY 2016
CAPITAL BUDGET***

MARCH 27, 2015

Coleen O'Brien
General Manager

FY16 CAPITAL BUDGET

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Reading Municipal Light Department
SYSTEM PROFILE
(based on CY 2014)

SERVICE TERRITORY	51 square miles serving Reading, North Reading, Wilmington and part of Lynnfield
TOTAL OPERATING REVENUES	\$88,216,289
NUMBER OF CUSTOMERS	29,661
ANNUAL PEAK LOAD	157,252 kW on July 2, 2014
ANNUAL SALES	682,401,652 kWh
PLANT VALUE	\$130,149,514 (Gross) \$69,697,353 (Net)
SUPPLY VOLTAGE	115 kV
SUPPLY CAPACITY	Station 4: (3) 60 MVA Transformers (2) 35 MVA Transformers 250 MVA Connected, 190 MVA Firm Station 3: (2) 60 MVA Transformers 120 MVA Connected, 60 MVA Firm
DISTRIBUTION SYSTEM VOLTAGE	13,800 volt wye 4,160 volt wye
OVERHEAD PRIMARY LINES	All 335 miles
UNDERGROUND PRIMARY LINES	All 135 miles
DISTRIBUTION TRANSFORMERS	3,980 – 271.2 MVA Capacity
DISTRIBUTION SUBSTATIONS	(3) 370 MVA Capacity
UTILITY POLES	17,225 poles <i>Ownership: 65% Verizon, 35% RMLD</i> <i>Ownership By Town:</i> North Reading – RMLD Lynnfield – Verizon Reading <ul style="list-style-type: none"> • east of Main Street – Verizon • west of Main Street, east of West Street, south of Prescott Street – Verizon • west of West Street – RMLD • west of Main Street, north of Prescott Street – RMLD Wilmington <ul style="list-style-type: none"> • all poles with 35 kV sub-transmission circuits, and Concord Street – RMLD • all other locations in Wilmington – Verizon
APPLICATION SOFTWARE	
Billing and Accounting	Great Plains/Cogsdale
General PC	Windows 2012, 2008, SQL, Office 2013, 2008, 2012 Exchange 2010, Windows 7, 8, 8.1 Sharepoint Itron
FORECASTING	Metrix ND (Daily Forecasting – Energy Services)
ENGINEERING ANALYSIS	Milsoft (in process)

READING MUNICIPAL LIGHT DEPARTMENT
Capital Improvements FY15-20
\$ Shown in thousands

COMPLETED

Town	PG #	PROJECT #	PROJECT NAME	FY15 Budget	FY15 YTD Actual thru 2/2015	FY15 EST.	FY16 PLAN EST.	FY17	FY18	FY19	FY20	BRIEF DESCRIPTION
F	A	8	121 HVAC System Upgrade - 230 Ash Street	399	11	73	600	500	100			Replace boilers, chillers, air handling units, and building automation systems addressing air filtration and efficiency.
F	A	10	129 Master Facilities Site Plan	50			150					Study will include consideration of solar generation on site and best use of all facilities, including leased Barbas building.
F	A	n/a	124 Rehabilitation of Station 1 - 226 Ash Street									Proceed based on findings of Master Facilities Site Plan. Offset by potential sale of 230 Ash.
F	A	12	123 Oil Containment Facility Construction	80	11	48	59					Comprehensive study complete. Recommendations to be implemented.
F	A	14	119 Security Upgrades All Sites	61	17	61	50					Access control, alarm monitoring, video and perimeter monitoring along the fence lines.
F	A	18	TBD 230 Ash Street Building Repairs				80					Engineering study and repairs to building to address bricks, whether at rear of building and insulation on exterior wall at the front of the building.
F	R	20	TBD Station 4 (Gaw) Back-up Generator				107					Purchase and install an emergency generator for Gaw Station 4.
F	R	22	TBD HVAC Roof Units for Garage				30					Will evaluate under Master Facilities Site Plan.
F	A	26	118 Rolling Stock Replacement (vehicles, trailers for trucks)	434		25	448	431	523	560	580	Scheduled vehicle replacement. Fleet assessment being performed.
IR		32	TBD IRD - Hardware				10					Equipment used to measure and verify commercial rebates for energy efficiency upgrades.
IR		34	TBD Electric Vehicle Supply Equipment				50					Pilot electric charging stations within RMI/D service area.
M	A	40	120 Great Plans/Coppage Update	350	39	80	127					Data conversion and upgrade to including software, hardware, training, consulting, and project management.
M	A	44	127 Hardware Upgrades	102	28	102	152	122	122	200	100	General hardware purchases, wireless mesh build out, VoIP.
M	A	46	128 Software and Licensing	122	28	122	172	146	146	146	150	Custom programming/development (OM/LAN/GS/GPS), SpyPoint SFRS software.
S	W	52	101 SW9 Reconducting Ballastvale Area, Wilmington	253	12	373	400					Upgrade to 795 spacer for capacity leading Ballastvale area (Target).
S		54	104 Upgrading of Old Lymfield Center (UKD's Farm)	217	56	368	422					Upgrade for reliability and to meet construction standards. 90% complete in FY15.
S	R	56	108 Relay Replacement Station 4 (Gaw)	50		50	73					Replace existing electromechanical protective relay systems on the 15KV feeder breakers. The new relays will be capable of providing more information back to SCADA and store vast amounts of data for down loading and evaluation.
S	NR	58	130 Remote Terminal Unit (RTU) Replacement Station 3	85			94					Upgrade to add functionality of the existing SEI relays. RTU will be IP addressable and will include Ethernet connection for RMI/D and NSTAR connection.
S	A	60	122 Engineering Analysis Software & Data Conversion	55			73					Midlife Engineering modeling integration with GIS.
S	A	62	125 GIS	150		30	420					Current GIS model requires data integrity and quality inspection. Comprehensive data collection.
S	R	64	212 Force Account West Street, Reading	224		74	150					Reconstruction of West Street, R. (State project). April 2015 estimated start date. Partial state reimbursement (Capital/response).
S	W	66	107 Pole Line Upgrade - Lowell Street, Wilmington	173	61	170	113					Upgrade 130 poles to proper strength, create proper clearance between utilities and transfer. Set two (2) new poles. Benefit to long term reliability. Expanded scope to include West Street and Woburn Street.
S	A	68	103 Distribution Protection & Automation	69		70	70	130	130	130	130	Install reclosers on feeders for fault isolation and installing capacitor controls for various capacitor banks on the system.
S	A	70	131 LED Street Light Implementation - All Towns				1,200	1,200	1,200			Full implementation following Pilot Program.
S	A	72	134 Substation Test Equipment	121		105	100	30				Purchase of test equipment for substation and metering.
S	R	74	109 Station 4 (Gaw) 35kv Potential Transformer Replacement				41					Replace six 30+ years old transformers.
S	W	78	TBD Pole Line Upgrade - Woburn Street, Wilmington				91					Upgrade sixteen (16) main line poles and four (4) x10 poles to proper strength, create proper clearance between utilities, and transfer. Benefit to long term reliability.
S	A	80	TBD Substation Equipment Upgrade				354					Upgrade various equipment at substations to include TLC controls, remote racking devices, cable trays and various minor items.
S	R	82	TBD Station 4 - Switchgear/Breaker Replacement				508					Replace existing switchgear/breakers.
S	R	84	TBD Station 4 - Battery Bank Upgrade				57					Replace battery bank.
S	A	86	TBD Distributed Generation				2,164	2,000	2,000	2,000	2,000	Pilot FY16 - Peak shaving units.
S	A	88	TBD Fiber Optic Test Equipment				15					Fiber optic testing equipment to locate and diagnose problems on network.
S	A	90	TBD Fault Indicators				50					Fault indicators to aid in fault locating.
S	A	92	TBD Voltage Data Recorders				50					Voltage data recorders to aid in voltage complaint investigation and survey.
S	A	96	116 Transformers and Capacitors	414	115	414	668	300	300	300	300	Purchase of units for stock and proposed projects.

READING MUNICIPAL LIGHT DEPARTMENT
Capital Improvements FY15-20
\$ Shown in thousands

COMPLETED

TOWN	PG #	PROJECT #	PROJECT NAME	FY15 Budget	FY15 YTD Actual thru 2/2015	FY15 EST.	FY16 PLAN EST.	FY17	FY18	FY19	FY20	BRIEF DESCRIPTION	
S	A	98	126	Communication Equipment (Fiber Optic)	30	5	80	98	50	50	50	Materials to accommodate expanded use of fiber optic network.	
S	A	100	117	Meters (Including '500 Club')	177	55	155	219				Purchase meters for stock. 500 Club meter upgrade.	
S	A	102	106	LRD Upgrades - All Towns	319	51	120	340	213	213	213	213	Replace primary and neutral cables and padmount transformers as needed in various aging LRDS. Improved reliability.
S	A	104	107	Step-down Area Upgrades - All Towns	203	40	170	352	150	150	250	150	Convert areas to 13.8kV, remove antiquated equipment and step-downs to lower losses and improve system efficiency.
S	A	106	112	New Service Installations (Commercial/Industrial)	57	12	40	34	50	50	50	50	Install new and upgraded commercial three phase electrical services as requested.
S	A	106	113	New Service Installations (Residential)	260	93	170	164	250	250	250	250	Install new and upgraded residential services as requested.
S	A	110	114	Roadline Construction	947	1,234	1,600	1,000	1,000	1,000	1,000	1,000	Non project capital including labor, pole sets, transformers, UG, police details, and OT.
S	A	131	LED Street Light Pilot Area - All Towns	37	26	30						Pilot to be done in FY15. Grant received \$125,000 toward Street Light Conversion/Implementation.	
S	NR	110	Station 3 - Replacement of Service Cuts		2	2						Replace potted porcelain cutouts which are prone to failure.	
S	W	115	Station 5 - Getaway Replacements SW9 and SW10									Underground cables are original to substation (early 1980's). Upgrade feeders for load and reliability reasons, and create a spare feeder on Bus E. SW9 completed as part of overhead project; SW10 not being done.	
S	R	105	4WS-4W6 Tie	70		95						Install 1,500' of circuit 1535 splicer in order to shift distribution load feeding Addison Wesley and South Main St and complete extension to Summer Avenue.	
S	A	132	Outage Management Software & Integration	85		85						Asset management system to track distribution and substation assets in a preventative manner. Manager Plus is being evaluated.	
S	A	133	Predictive Asset Management Program	80		5							
S	A	135	Acc Flash Study	35		30							
S	A	136	Organizational/Reliability Study	100		261							
S	A	137	SCADA System Upgrades - hardware	63		20						Upgrade Survival system to a new version supporting new technology.	
S	W	810	Station 5 RTU Replacement			56						Purchase pre-wired RTU enclosure to replace existing RTU enclosure which is unsupported and does not have enough points.	
S	W	TBD	Station 5 - Getaway Replacements, SW4, SW5, SW8					250					
S	R	TBD	4WS Getaway Replacement - Station 4					239				Upgrade 2,850 circuit feet of UG cable on Causeway Road and Towell Street. R, with 750 mcm cu for increased reliability and capacity.	
S	R	TBD	4W4 Getaway Replacement - Station 4						341			Upgrade 3,700 circuit feet of UG cable on West Street, R and West St. W to 750 mcm cu for increased reliability and capacity.	
S	W	TBD	SW5 Reconductoring, Widdowood to Upton Drive						214	214	214	214	Upgrade 25,000 circuit feet of 336 spacer cable on Widdowood, Woburn, and Andover Streets to 795 spacer cable.
S	W	TBD	Build New Substation in Wilmington						600	2,500	3,000	3,000	Planning and securing land and licensing will begin in FY18.
S	R	TBD	4WS Getaway Replacement - Station 4							234		234	Upgrade 1,700 circuit feet of UG cable on West Street, R to 750 mcm cu for increased reliability and capacity.
S	R	TBD	4W6 Getaway Replacement - Station 4							243		243	Upgrade 1,850 circuit feet of UG cable on West Street, R to 750 mcm cu for increased reliability and capacity.

READING MUNICIPAL LIGHT DEPARTMENT
Capital Improvements FY15-20
\$ Shown in thousands

COMPLETED

100th	PG #	PROJECT #	PROJECT NAME	FY15 Budget	FY15 YTD Actual thru 2/2015	FY15 EST.	FY16 PLAN EST.	FY17	FY18	FY19	FY20	BRIEF DESCRIPTION
TABLE 1: PLANT VALUES & DEPRECIATION EXPENSE												
			TOTAL	5,850	1,949	5,056	10,596	7,569	7,388	8,340	8,430	
			Plant in Service (Beginning)	129,981		129,981	134,038	143,634	150,203	156,591	163,932	
			Additions	5,850		5,046	10,596	7,569	7,388	8,340	8,430	
			Adjustments (Property Retirement)	(1,300)		(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)	
			Plant in Service (Ending)	134,531		134,038	143,634	150,203	156,591	163,932	171,362	
			Less Land and Land Rights	(1,266)		(1,266)	(1,266)	(1,266)	(1,266)	(1,266)	(1,266)	
			Depreciable Plant in Service	133,265		132,772	142,368	148,937	155,325	162,666	170,096	
			Accumulated Reserve For Depreciation	(64,700)		(64,711)	(66,694)	(72,965)	(77,433)	(82,093)	(86,973)	
			Net Plant in Service	69,531		69,327	74,940	77,238	79,158	81,939	84,389	
			Maximum allowed Return on Net Plant (%)	8%		8%	8%	8%	8%	8%	8%	
			Maximum allowed Return on Net Plant (\$)	5,566		5,546	5,995	6,179	6,333	6,547	6,751	
			Estimated Return on Net Plant (%)	5.9%		5.9%	5.2%	4.2%	7.1%	6.5%	6.5%	
			Estimated Return on Net Plant (\$)	4,120		4,090	3,897	3,244	5,620	5,320	5,485	
			TABLE 2: DEPRECIATION FUND BALANCES									
			Beginning Balance	5,130		5,130	5,015	3,073	4,008	5,976	7,805	
			Interest Earned	51		51	50	31	40	59	78	
			Depreciation Rate (3-5%)	3,0%		3,0%	3,0%	3,0%	3,0%	3,0%	3,0%	
			Depreciation Expense	3,861		3,872	3,983	4,271	4,468	4,680	4,880	
			Bond Proceeds and Other Fund Sources	18		18	257	3,200	3,800	4,500	5,000	
			Prior Year Adjustment	1,000		1,000	4,364	1,000	1,000	1,000	1,000	
				10,061		10,072	13,669	11,575	13,314	16,145	18,763	
			Capital Improvements	(5,850)		(5,056)	(10,596)	(7,569)	(7,388)	(8,340)	(8,430)	
			Principal Payment	4,211		5,015	3,073	4,006	5,226	7,805	10,333	
			Ending Balance	1,000%		1,00%	1,00%	1,00%	1,00%	1,00%	1,00%	
			TABLE 3: BOND PROCEEDS & OTHER FUND SOURCES									
			Miss DOT (Highway) West Street	224		74	150					
			DOER - ENE Grant (LED Credit)	18		18	107					
			Bond Proceeds for LED Street Lights					1,200	1,200	2,000	2,000	
			Bond Proceeds for Distributed Generation							600	2,500	
			Bond Proceeds for New Substation - Wilmington									
				241		91	257	3,200	3,800	4,500	5,000	

FACILITIES MANAGEMENT

<i>Continuing Projects:</i>	Page #	Project #
⌘ HVAC System Upgrade	8	121
⌘ Master Facilities Site Plan	10	129
Rehabilitation of Station 1 – Pending Master Facilities Site Plan		124
⌘ Oil Containment Facility Construction	12	123
⌘ Security Upgrades – All Sites	14	119
 <i>New Projects for FY16:</i>		
⌘ 230 Ash Street Building Repairs	18	TBD
⌘ Station 4 (Gaw) Back-up Generator	20	TBD
⌘ HVAC Roof Units – Garage	22	TBD
 <i>Annual Projects:</i>		
⌘ Rolling Inventory	26	118

FACILITIES MANAGEMENT

CONTINUING PROJECTS

CAPITAL PROJECT SUMMARY

Project Name: HVAC System Upgrade – 230 Ash Street **Project #:** 121

Project Schedule: FY15-18 **Project Manager:** Facilities Manager

Reason for Expenditure:

Upgrade the HVAC system at 230 Ash Street.

Brief Description/Scope:

FY15: Professional Services including study/report phase, construction documents and bid/construction.

FY16: Replace the HW boiler plant with condensing boilers. Replace DDC Control System. Replace VAV terminal box controllers. Replace AHU-3 as an indoor unit with split system DX condensing unit on the roof.

FY17: Replace AHU-1 and AHU-2 as an indoor unit with split system DX condensing units on the roof.

FY18: Enhance fin-tube radiation for higher output and to compensate for lower HW temperatures. Enhance heating of the front lobby. Reconfigure ductwork serving the receiving area roll-up dock.

Barriers:

Change in Scope of Work From Prior Fiscal Year:

Status Update:

CAPITAL PROJECT SUMMARY

Project Name: Master Facilities Site Plan **Project #:** 129

Project Schedule: FY16 **Project Manager:** Facilities Manager

Reason for Expenditure:

The Master Facilities Site Plan will begin in FY16, finalizing options and creating bid documents to begin addressing building use and storage allocation requirements. The final plan will also include the photovoltaic recommendations as part of the Facilities Master Plan.

Brief Description/Scope:

Complete assessment of the office space, Station 1, garage and leased warehouse space. Finalize recommendations and create a long- term strategic plan based on current and future needs working collaboratively with other Town agencies.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

None.

Status Update:

This project was postponed pending the outcome of the Organizational Study.

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Master Facilities Site Plan

SCHEDULE: FY16

PROJECT #: 129

ITEM	CREW WEEKS 2-man	RMLD CREW LABOR COST	RMLD CREW VEHICLE COST	OTHER LABOR	OTHER VEHICLE	NEW MATERIAL & MISC	TOTAL
Hire consultant to perform master site plan for Ash Street campus.						\$138,000	\$138,000
Unit Cost							
Facilities Department Labor:				\$12,459			\$12,459
4.5 week (s)				\$2,769		per week	
Unit Cost							
Unit Cost							
Unit Cost							
Unit Cost							
Unit Cost							
Unit Cost							
Unit Cost							
TOTAL			\$12,459		\$138,000		

TOTAL ESTIMATED PROJECT COST: \$150,459

CAPITAL PROJECT SUMMARY

Project Name: Oil Containment Facility Construction **Project #:** 123

Project Schedule: FY15-16 **Project Manager:** Facilities Manager

Reason for Expenditure:

RMLD stores new and used oil filled equipment in multiple locations. Necessary measures will be taken related to storage of this equipment at RMLD facilities.

Brief Description/Scope:

This project provides engineering, design and construction services at a number of RMLD facilities where equipment is stored.

Barriers:

Engineering, design and permitting.

Change in Scope of Work From Prior Fiscal Year:

All Substations were reviewed as part of the study. Work will be completed at Stations 3, 4 and 5 in addition to the Ash Street Campus.

Status Update:

Study was completed and recommendations made. We expect to begin construction at sites as per the recommendations and complete work by the end of FY16.

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Oil Containment Facility Construction

SCHEDULE: FY15-16

PROJECT #: 123

ITEM	CREW WEEKS 2-man	RMLD CREW LABOR COSTS	RMLD CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC.	TOTAL
Conduct a study and take temporary measures for the containment of oil filled equipment at the Ash Street Campus and Station 3						\$15,000	\$15,000
Unit Cost							
improvements to Station 3 and oversight of construction.	1.0	\$5,828	\$920			\$48,121	\$54,868
Unit Cost \$5,828 \$920 per week							
improvements to Station 4 and oversight of construction. Labor: Senior Techs (2-man crew) 0.5 week(s)				\$2,712	\$18	\$13,043	\$15,774
Unit Cost \$5,425 \$36 per week							
improvements to Station 5 and oversight of construction. Labor: Senior Techs (2-man crew) 1.5 week(s)				\$8,137.36	\$54	\$13,469	\$21,660
Unit Cost \$5,425 \$36 per week							

1.0

TOTAL	\$5,828	\$920	\$10,850	\$72	\$89,633
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ESTIMATED TOTAL PROJECT COST: \$107,302

FY15	45%	Est. mate	\$48,434
FY16	55%	Est. mate	\$58,868

CAPITAL PROJECT SUMMARY

Project Name: Security Upgrades – All Sites **Project #:** 119

Project Schedule: FY15-16 **Project Manager:** Facilities Manager

Reason for Expenditure:

Security enhancements at our substations and other owned and leased facilities.

Brief Description/Scope:

Scope of work includes upgrades and modification of our cameras, access control points, entry point alarms, and perimeter fencing.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

None.

Status Update:

FACILITIES MANAGEMENT

NEW PROJECTS

CAPITAL PROJECT SUMMARY

Project Name: 230 Ash Street Building Repairs **Project #:** TBD

Project Schedule: FY16 **Project Manager:** Facilities Manager

Reason for Expenditure:

The deck is a means of egress for three doorways: two single doors exiting the cafeteria and a set of double doors leading from the main corridor. The deck was constructed in 1993 and has served us well. However, due to weather and age, it has deteriorated to the point that it needs to be replaced.

Additionally, the exterior walls above the hung ceiling and the vestibule ceiling at the main entrance need insulation upgrades and to be resealed.

Brief Description/Scope:

Deck: replace/repair deck and related equipment per architectural consultant's specifications.

Main Entrance: insulate and seal exterior wall and vestibule ceiling per architectural consultant's specifications.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

n/a

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: 230 Ash Street Building Repairs

SCHEDULE: FY16

PROJECT #: TBD

ITEM	CREW WEEKS	RMLD CREW LABOR COST	RMLD CREW VEHICLE COST	OTHER LABOR	OTHER VEHICLE	NEW MATERIAL & MISC	TOTAL
Replace/repair deck and related equipment per architectural consultant specifications.						\$60,000	\$60,000
	Unit Cost						\$60,000
Insulate and seal exterior wall in lobby per architectural consultant specifications.						\$20,000	\$20,000
	Unit Cost						\$20,000
	Unit Cost						
	Unit Cost						
	Unit Cost						

TOTAL \$80,000

TOTAL ESTIMATED PROJECT COST: \$80,000

CAPITAL PROJECT SUMMARY

Project Name: Station 4 (Gaw) Back-up Generator **Project #:** TBD

Project Schedule: FY16 **Project Manager:** Facilities Manager

Reason for Expenditure:

Station 4 (Gaw) does not have a standby generator. This is standard item for a substation of this size and is necessary as a safeguard against outages at the Station.

Brief Description/Scope:

Purchase and install a generator with automatic transfer switches. Project would include concrete foundation, base-mount fuel tank, switches, installation and all associated wiring and hardware.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

n/a

CAPITAL PROJECT SUMMARY

Project Name: HVAC Roof Units - Garage **Project #:** TBD

Project Schedule: FY16 **Project Manager:** Facilities Manager

Reason for Expenditure:

The garage (at 218 Ash Street) has four, through-the-wall electric heat/air conditioning units and two small wall-mount space heaters to service five rooms. They are near the end of their expected life and run constantly to keep up with heat demands. The four units with AC have had multiple repairs and run constantly to keep up with the cooling requirements.

Brief Description/Scope:

Install HVAC equipment and duct work, per engineering evaluation and recommendations, to heat and cool five rooms in the garage.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

n/a

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: HVAC Roof Units - Garage

SCHEDULE: FY16

PROJECT #: TBD

ITEM	CREW WEEKS	RMLD CREW LABOR COSTS	RMLD CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC	TOTAL
Install HVAC equipment and ductwork to heat and cool five rooms at 218 Asn Street (Garage)	4-Man					\$50,000	\$50,000
	Unit Cost						
	Unit Cost						
	Unit Cost						
	Unit Cost						

TOTAL \$50,000

TOTAL ESTIMATED PROJECT COST: \$50,000

FACILITIES MANAGEMENT

ANNUAL PROJECTS

CAPITAL PROJECT SUMMARY

Project Name: Rolling Stock Replacement
(vehicles, trailers and fork trucks)

Project #: 118

Project Schedule: Annual

Project Manager: Facilities Manager

Reason for Expenditure:

Replace vehicles based on an 8-10 year cycle to reduce maintenance costs and improve reliability. Vehicles removed from the fleet will be disposed of under RMLD Policy No. 2 "Surplus Material."

Brief Description/Scope:

In FY16, two (2) new vehicles (Box Truck and Digger Derrick), which will be bid in FY15, will be received. Additionally, we will purchase a new forklift and spreader.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year: Increase (Decrease)

n/a

Status Update:

Specifications, bid, and purchase order will be complete for both the Box Truck and Digger Derrick, which will have an FY16 delivery. Scheduled purchase of two small SUV's was postponed pending outcome of a comprehensive fleet study.

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Rolling Stock Replacement

SCHEDULE: FY16

PROJECT #: 118

ITEM	CREW WEEKS	RMLD CREW LABOR COST	RMLD CREW VEHICLE COST	OTHER LABOR	OTHER VEHICLE	NEW MATERIAL & MISC	TOTAL
Box Truck - scheduled to be received in FY16						\$155,000	\$155,000
	Unit Cost					\$155,000 per vehicle	
45' Digger Derrick - scheduled to be received in FY16						\$250,000	\$250,000
	Unit Cost					\$250,000 per vehicle	
Purchase and receive one Fork Lift						\$35,000	\$35,000
	Unit Cost					\$35,000 per vehicle	
Purchase and receive one Spreader (sand and salt)						\$8,000	\$8,000
	Unit Cost					\$8,000 per vehicle	
	Unit Cost						
Police Details (if applicable)							
	Unit Cost						

TOTAL \$448,000

TOTAL ESTIMATED PROJECT COST: \$448,000

INTEGRATED RESOURCES

Continuing Projects:

None

Page #

Project #

New Projects for FY16:

⌘ IRD Hardware	32	TBD
⌘ Electric Vehicle Supply Equipment (EVSE)	34	TBD

Annual Projects:

None

INTEGRATED RESOURCES

NEW PROJECTS

CAPITAL PROJECT SUMMARY

Project Name: IRD Hardware

Project #: TBD

Project Schedule: FY16

Project Manager: Jane Parenteau, Director of
Integrated Resources

Reason for Expenditure:

This is an amount reserved to purchase equipment used to measure and verify commercial rebates for energy efficiency upgrades.

Brief Description/Scope:

Some potential equipment includes lighting meters, data loggers, digital multi-meters, and infrared camera.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

n/a

FISCAL 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: IRD - Hardware SCHEDULE: FY16

PROJECT #: TBD

ITEM	CREW WEEKS	RMLD CREW LABOR COST	RMLD CREW VEHICLE COST	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC	TOTAL
<div style="border: 1px solid black; padding: 2px;">General hardware purchase for efficiency measurement and verification.</div>						\$10,000	\$10,000
		Unit Cost					
							\$0
		Unit Cost					
							\$0
		Unit Cost					
							\$0
		Unit Cost					
							\$0
		Unit Cost					

TOTAL 0.0 0 \$0 \$0 \$0 \$10,000

TOTAL ESTIMATED PROJECT COST: \$10,000

CAPITAL PROJECT SUMMARY

Project Name: Electric Vehicle Supply Equipment (EVSE) **Project #:** TBD

Project Schedule: FY16 **Project Manager:** Jane Parenteau, Director of Integrated Resources

Reason for Expenditure:

RMLD installed three EVSE's in FY15 and anticipates further demand in FY16.

Brief Description/Scope:

Each EVSE is a dual charger. This will increase RMLD's kWh sales.

Barriers:

Based on customer requests and the increasing use of electric vehicles.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

n/a

FISCAL 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Electric Vehicle Supply Equipment (EVSE) SCHEDULE: FY16

PROJECT #: TBD

ITEM	CREW WEEKS	RMLD CREW LABOR COST	RMLD CREW VEHICLE COST	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC	TOTAL
Purchase five (5) EVSE for installation on RMLD service territory.						\$50,000	\$50,000
		Unit Cost					\$10,000 each
							\$0
		Unit Cost					
							\$0
		Unit Cost					
							\$0
		Unit Cost					
							\$0
		Unit Cost					

TOTAL 0.0 0 \$0 \$0 \$0 \$50,000

TOTAL ESTIMATED PROJECT COST: \$50,000

MIS

Continuing Projects:

	<i>Page #</i>	<i>Project #</i>
⌘ Great Plains/Cogsdale Update	40	120

New Projects for FY16:

None

Annual Projects:

⌘ Hardware Upgrades	44	127
⌘ Software Upgrades	46	128

MIS

CONTINUING PROJECTS

CAPITAL PROJECT SUMMARY

Project Name: Great Plains/Cogsdale Upgrade **Project #:** 120

Project Schedule: FY15-16 **Project Manager:** Mark Uvanni, MIS Manager

Reason for Expenditure:

We are currently using Great Plains/Cogsdale Version 10 as our financial management and customer service management (CSM) software. Version 10 will no longer be supported by the end of 2014 (calendar) or shortly thereafter. We will be doing a 'data conversion' upgrade to Great Plains/Cogsdale 2013. The costs include software, hardware, training, consulting, custom programming and project management. System will provide new work order system capability and integration with Engineering and customer data-bases for improved customer service and system reliability.

Brief Description/Scope:

Upgrade will be a 'data conversion' update to Version 2013 (most current stable build). It will update current CSM and financial systems to the newest version. Project will encompass software, hardware, consulting (CDM), training, custom programming, and project management (RMLD and CDM)

Barriers:

Successful interfacing of various adjunct systems.

Change in Scope of Work From Prior Fiscal Year:

Status Update:

The "go live" date is set for August 1, 2015. We still have to solve a few issues; mainly the USPS Smart Bar Code on bills to eliminate having to send a data file to our mailer. We also have to decide, what if any, new processes we will introduce based on the Business Process Review. Overall we seem to be in good shape and the testing is going well. We will continue to test with periodic data refreshes.

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Great Plains/Cogsdale Upgrade

SCHEDULE: FY15-16

PROJECT #: 120

ITEM	CREW WEEKS 4-Man	RMLD CREW LABOR COSTS	RMLD CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC.	TOTAL	
Great Plains/Cogsdale Update to 2013						\$100,000	\$100,000	
Unit Cost								
CDM Project Management and Consulting - GP/Cogsdale Update						\$55,000	\$55,000	
Unit Cost								
Network/System Administration				\$52,219			\$52,219	
17 week(s)	Unit Cost			\$3,072	per week			
	Unit Cost							
	Unit Cost							
	Unit Cost							
	Unit Cost							
	Unit Cost							
TOTAL			\$52,219		\$155,000			

TOTAL ESTIMATED PROJECT COST: \$207,219

	FY15	39%	Estimate	\$80,000
	FY16	61%	Estimate	\$127,219

MIS

ANNUAL PROJECTS

CAPITAL PROJECT SUMMARY

Project Name: Hardware Upgrades

Project #: 127

Project Schedule: Annual

Project Manager: Mark Uvanni, MIS Manager

Reason for Expenditure:

This is an amount annually reserved for failed and/or obsolete computer and related equipment. This budget item is also used for unforeseen purchases, which may be necessary.

Brief Description/Scope:

General hardware purchases plus the following specific projects.

- General Hardware Purchases
- Wireless Mesh Build-Out
- Convert Digital Phones to VoIP

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

n/a

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Hardware Upgrades SCHEDULE: FY16

PROJECT #: 127

ITEM	CREW WEEKS	RMLD CREW LABOR COST	RMLD CREW VEHICLE COST	OTHER LABOR	OTHER VEHICLE	NEW MATERIAL & MISC	TOTAL
a) General hardware purchases				\$7,065		\$40,000	\$47,065
2.30 weeks Network/System Administration				\$3,072		per week	
b) Commence build-out of wireless mesh						\$40,000	\$40,000
c) Convert digital phones to VOIP.						\$65,000	\$65,000

TOTAL \$7,065 \$145,000

TOTAL ESTIMATED PROJECT COST: \$152,065

CAPITAL PROJECT SUMMARY

Project Name: Software and Licensing

Project #: 128

Project Schedule: Annual

Project Manager: Mark Uvanni, MIS Manager

Reason for Expenditure:

Each year RMLD must renew existing software licenses and purchase new software, either to update existing users or for new users. Additionally, new software may be added at the request of various operating units. This item includes these ad hoc purchases as well as more specific items (outlined below) which are anticipated at this time.

Brief Description/Scope:

In addition to the standard software and licensing purchases described above, we anticipated the following:

- Custom programming/development for OM/UAN/GIS/GPS
- Ad-hoc software purchases
- SpryPoint SSRS Software

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

n/a

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Software and Licensing

SCHEDULE: FY16

PROJECT #: 128

ITEM	CREW WEEKS	RMLD CREW LABOR COST	RMLD CREW VEHICLE COST	OTHER LABOR	OTHER VEHICLE	NEW MATERIAL & MISC	TOTAL
a) General software purchases. 2.00 week(s) Network/System Administration				\$6,143		\$30,000	\$36,143
		Unit Cost		\$3,072		per week	
b) SpyPoint SSRS Software 0.75 week(s) Network/System Administration				\$2,304		\$14,000	\$16,304
		Unit Cost		\$3,072			
c) Custom programming/development OM/UAN/GIS/CPS						\$120,000	\$120,000
		Unit Cost				per week	
		Unit Cost					
		Unit Cost					
		Unit Cost					
TOTAL				\$8,447		\$164,000	
TOTAL ESTIMATED PROJECT COST:							\$172,447

SYSTEM

Continuing Projects Update:

	Page #	Project #
⌘ 5W9 OH Reconductoring – Ballardvale Area, Wilmington	52	101
⌘ Upgrade Old Lynnfield Center URDs (Cook’s Farm)	54	104
⌘ Relay Replacement – Station 4	56	108
⌘ Remote Terminal Unit (RTU) Replacement - Station 3	58	130
⌘ Engineering Analysis Software and Data Conversion	60	122
⌘ GIS	62	125
⌘ Force Account (Mass DOT) West Street, Reading	64	212
⌘ Pole Line Upgrade – Lowell Street, Wilmington	66	102
⌘ Distribution Protection & Automation	68	103
⌘ LED Street Light Implementation – All Towns	70	131
⌘ Substation Test Equipment	72	134
⌘ Station 4 (Gaw) 35 kV Potential Transformers Replacement	74	109

New Projects for FY16:

⌘ Pole Line Upgrade – West Street, Wilmington	78	TBD
⌘ Substation Equipment Upgrade	80	TBD
⌘ Station 4: Switchgear/Breaker Replacement	82	TBD
⌘ Station 4: Battery Bank Upgrade	84	TBD
⌘ Distributed Generation	86	TBD
⌘ Fiber Optic Equipment	88	TBD
⌘ Fault Indicators	90	TBD
⌘ Voltage Data Recorders	92	TBD

Annual Projects:

⌘ Transformers and Capacitors	96	116
⌘ Communication Equipment (Fiber Optic)	98	126
⌘ Meters	100	117
⌘ URD Upgrades – All Towns	102	106
⌘ Step-down Area Upgrades – All Towns	104	107
⌘ New Service Installations	106	
Commercial/Industrial		112
Residential		113
⌘ Routine Construction	110	114

SYSTEM

CONTINUING PROJECTS

CAPITAL PROJECT SUMMARY

Project Name: 5W9 Reconductoring – Ballardvale Area, W **Project #:** 101

Project Schedule: FY14-16 **Project Manager:** Peter Price, Chief Engineer

Reason for Expenditure:

5W9 is a 336-spacer cable circuit that feeds Ballardvale Street and Research Drive in Wilmington. This feeder construction dates back to the 1980s. This circuit has seen heavy loading during the summer peaks and is experiencing load growth. This load growth includes the new Target Store and associated retail mall as well as some proposed projects on Research Drive. The project will add to the long-term reliability of the area and contingency planning by increasing the feeder capacity.

Brief Description/Scope:

Reconductor existing 336-spacer cable with 795-spacer cable, upgrade brackets as needed, and re-use existing messenger cable.

Barriers:

This is a Verizon set area. Also, we will need a flagman to reconductor over the railroad tracks on Middlesex Avenue in North Wilmington.

Change in Scope of Work from Prior Fiscal Year:

n/a

Status Update:

It is expected that 84% of this project will be completed by the end of FY15.

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: 5W9 Reconductoring - Ballardvale Area, W.

SCHEDULE: FY14-16

PROJECT #: 101

ITEM	CREW WEEKS 2-man	CREW LABOR COSTS	CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC.	TOTAL
Install 63,000 feet of 795 spacer cable and 7,000 feet of 0.052 messenger.	40.2	\$234,269	\$36,984			\$168,458	\$439,711
		Unit Cost		\$5,828	\$920	per week	
Reframe approximately 100 poles with new brackets, miscellaneous sleeves, hardware and connectors	11.0	\$64,104	\$10,120			\$20,000	\$94,224
		Unit Cost		\$5,828	\$920	per week	
Install (1) 900 amp gang operated switch	0.8	\$4,662	\$736			\$2,510	\$7,908
		Unit Cost		\$5,828	\$920	per week	
Miscellaneous pole line hardware and materials for 65 poles						\$13,000	\$13,000
		Unit Cost					
Labor: Engineering 3 week(s)				11,160			\$11,160
		Unit Cost		\$3,720		per week	
Police Details (if applicable) 24.0 week(s)						\$59,538	\$59,538
		Unit Cost				\$2,481 per week	

Total RMLD Crew Weeks 52.0
Total U/G Crew Weeks

	\$303,035	\$47,840	\$11,160	\$263,506
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TOTAL ESTIMATED PROJECT COST:	\$625,541
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FY14	24% Actual	\$152,387
FY15	60% Estimate	\$373,067
FY16	16% Estimate	\$100,086

CAPITAL PROJECT SUMMARY

Project Name: Upgrading of Old Lynnfield Center URDs (Cook's Farm) **Project #:** 104

Project Schedule: FY14-16 **Project Manager:** Peter Price, Chief Engineer

Reason for Expenditure:

This is one of the original Lynnfield underground subdivisions and is over 40 years old. This area does not conform to the Department's current construction standards. When this system was installed, the design called for fiber duct, 2,400-volt primary cable, and no manholes. With this type of design, an underground cable failure could result in a significant outage for some customers.

Brief Description/Scope:

The first phase of this project was the Townsend and Needham Road Subdivision (FY12). The second phase is Russell Road, Trog Hawley and Charing Cross (FY13), and the third phase will be Cooks Farm, Cortland Lane, and Tophet Road (FY14). This project would require building a new underground distribution system within the public way. This involves the installation of manholes, conduits, transformers, underground primary and secondary cable, and pull boxes, etc. The transformers would be replaced in the same location. The Department would intercept the customer's existing service and place a pull box on the property. If the customer wants to upgrade their service at the same time, they would be responsible from the pull box to the house. In FY14 the Department will begin Cooks Farm Lane, Cortland Lane, and Tropheet Road. Engineering will petition the Town for permission to install the underground electric facilities and meet with the customers affected by this construction to explain the project and scope of work.

This project will require procuring an excavation contractor and may require the complete repaving of the subdivision.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

Status Update:

This project started in FY14 and continued into FY15. This was the same case for the previous two subdivisions. The construction season for this type of project runs from mid-April to mid-October. It is expected that 90% of this project will be completed by the end of FY15.

FISCAL 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Upgrading Old Lynnfield Center URDs (Cook's Farm)

SCHEDULE: FY14-16

PROJECT #: 104

ITEM	CREW WEEKS 2-man	CREW LABOR COST	CREW VEHICLE COST	OTHER LABOR	OTHER VEHICLE	NEW MATERIAL & MISC	TOTAL
Complete installation of: 6,000 feet of U/G conduit 5,400 feet of U/G 1/0 primary 1,800 feet of U/G 4/0 secondary 11 manholes, 9 transformers, etc.	28.0	\$163,173	\$25,760			\$75,000	\$263,933
		Unit Cost	\$5,828	\$920		per week	
Underground Contractor:	2-Man 16.0			\$94,438	\$640		\$95,078
		Unit Cost		\$5,902	\$40	per week	
		Unit Cost					
		Unit Cost					
LABOR: Engineering 8.0 weeks				\$29,759			\$29,759
		Unit Cost		\$3,720		per week	
		Unit Cost					
Police Details (if applicable) 14.0 weeks				\$34,730			\$34,730
		Unit Cost		\$2,481		per week	
Total RMLD Crew Weeks	28.0						
Total U/G Crew Weeks	16.0						
TOTAL	44.0	\$163,173	\$25,760	\$158,928	\$640	\$75,000	

TOTAL ESTIMATED PROJECT COST: \$423,501

FY14	3% Actual	\$13,548
FY15	87% Estimate	\$367,603
FY16	10% Estimate	\$42,350

CAPITAL PROJECT SUMMARY

Project Name: Relay Replacement - Station 4 (Gaw) **Project #:** 108

Project Schedule: FY15-16 **Project Manager:** Nick D'Alleva
Technical Services Manager

Reason for Expenditure:

Replace the existing electro-mechanical protective relay systems on the 15kV feeder breakers at the Gaw Substation. These relays will be able to provide more information back to the SCADA; they also store vast amounts of data for down-loading and evaluating.

Brief Description/Scope:

Replace relays and rewire feeder cubicle for installation of this equipment previously purchased. Test and commission new relays.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

None

Status Update:

It is anticipated that 41% of this project will be completed by the end of FY15.

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Station 4: Relay Replacement

SCHEDULE: FY15-16

PROJECT #: 108

ITEM	CREW WEEKS 2-man	RMLD CREW LABOR COST	RMLD CREW VEHICLE COST	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC	TOTAL
Miscellaneous materials including wire, test blocks, terminals, panels, etc.						\$2,000	\$2,000
Unit Cost		See box at left.					
Labor: Senior Techs (2-man crew) 12 week(s)				\$65,099	\$432		\$65,531
Unit Cost				\$5,425	\$36	per week	
Labor: Technical Services Manager 9 week(s)				\$33,864	\$162		\$34,026
Unit Cost				\$3,763	\$18	per week	
Engineering Consultant: design and inter-connection and as built plans.						\$15,000	\$15,000
Unit Cost		See box at left.					
Electrical Contractor: testing and commissioning						\$6,000	\$6,000
Unit Cost		See box at left.					
Unit Cost		See box at left.					
Police Details (if applicable)							
Unit Cost		See box at left.					

TOTAL \$98,963 \$594 \$23,000

TOTAL ESTIMATED PROJECT COST: \$122,557

	FY15	41%	Estimate	\$50,000
	FY16	59%	Estimate	\$72,557

CAPITAL PROJECT SUMMARY

Project Name: Remote Terminal Unit (RTU) Replacement – Station 3 **Project #:** 130

Project Schedule: FY16 **Project Manager:** Peter Price, Chief Engineer

Reason for Expenditure:

The existing RTU was installed in 2000 and uses a legacy TeleGyr 8979 protocol. This was done so that it would work with the old TeleGyr SCADA system. The existing RTU is not IP addressable, nor does it have an ethernet connection. The RTU needs to be upgraded to add the functionality of the existing SEL relays at Station 3. A new RTU will give the Department the ability to communicate with the SEL relays, similar to what is being done at Station 4.

Brief Description/Scope:

Bid and purchase a pre-wired RTU enclosure, with required technical support, that will replace the existing RTU enclosure at Station 3. Contract with SEL for technical assistance and any required hardware for the interconnection. Station Supervisor and Senior Technicians will re-wire and terminate control wiring within the new RTU cabinet. Engineering will program and configure SCADA for new comm-line and RTU

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

Status Update:

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: RTU Replacement - Station 3

SCHEDULE: FY16

PROJECT #: 130

ITEM	CREW WEEKS 2-man	RMLD CREW LABOR COSTS	RMLD CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC	TOTAL
Purchase RTU pre-wired enclosure and miscellaneous equipment						\$55,000	\$55,000
Labor: Senior Techs (2-man crew) 3 week(s)				\$16,275	\$108		\$16,383
	Unit Cost			\$5,425	\$36	per week	
Labor: Technical Services Manager 3 week(s)				\$11,288	\$54		\$11,342
	Unit Cost			\$3,763	\$18	per week	
Labor: Engineering 3 week(s)				\$11,160			\$11,160
	Unit Cost			\$3,720		per week	
TOTAL				\$38,722	\$162	\$55,000	
TOTAL ESTIMATED PROJECT COST:							\$93,884

CAPITAL PROJECT SUMMARY

Project Name: Engineering Analysis Software and
Data Conversion

Project #: 122

Project Schedule: FY16

Project Manager: Peter Price, Chief Engineer

Reason for Expenditure:

This software purchase and data conversion will allow the Engineering department to perform engineering analysis on the distribution system. Internally, the department would be able to perform fault current calculations, arc flash calculations, load flow and voltage drop calculations, load balancing, voltage regulator settings, etc. This new software would work with the existing coordination software that the Engineering department uses.

Brief Description/Scope:

Take the existing databases and newly collected as-built data, and core ESRI data for the GIS project and have it converted for use in the electric model by the Milsoft and Windmill software provider. Purchase the software necessary to perform the engineering analysis and to update map/land-base data. Purchase of server for software and databases.

Barriers:

GIS as-built data completion.

Change in Scope of Work From Prior Fiscal Year:

Status Update:

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Engineering Analysis Software & Data Conversion

SCHEDULE: FY16

PROJECT #: 122

ITEM	CREW WEEKS 4-Man	RMLD CREW LABOR COSTS	RMLD CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC	TOTAL
Engineering Analysis Software						\$18,250	\$18,250
Data conversion for WindmilMap						\$25,000	\$25,000
Unit Cost							
WindmilMap Software						\$30,000	\$30,000
Unit Cost							
Unit Cost							
Unit Cost							
Unit Cost							
Unit Cost							
TOTAL						\$73,250	

TOTAL ESTIMATED PROJECT COST: \$73,250

CAPITAL PROJECT SUMMARY

Project Name: GIS Upgrade

Project #: 125

Project Schedule: FY15-16

Project Manager: Hamid Jaffari, Director of
Engineering and Operations

Reason for Expenditure:

The current RMLD GIS lacks critical information to accurately perform system modeling. Once this information is captured, reviewed, and optimized, RMLD will be able to enhance contingency and reliability planning, developing system protection and coordination studies. By increasing the value of the information within the GIS, RMLD will be better able to manage the assets within the network. Once completed RMLD will be able to track flow from substations to individual meters.

In conjunction with a contracted engineering firm, RMLD is creating a template of desired GIS attributes to include the Milsoft WindMilMap required attributes for engineering analysis as well as Smart Grid systems (i.e. OMS, DMS, FDIR, etc.). RMLD does not have enough resources to collect pole-by-pole data throughout its service territory, as this is a tedious and time-consuming task. Staff augmentation with an outside data collector will be used for this data integration effort.

Brief Description/Scope:

Comprehensive, contracted third-party data collection to produce GIS base model for overhead assets.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

Status Update:

It is anticipated that 7% of this project will be completed in FY15.

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: GIS

SCHEDULE: FY15-16

PROJECT #: 125

ITEM	CREW WEEKS 2-man	RMLD CREW LABOR COSTS	RMLD CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC	TOTAL
Comprehensive data collection for RMLD overhead network.						\$450,000	\$450,000
Unit Cost							
Unit Cost							
Unit Cost							
Unit Cost							
Police Details (if applicable) week(s)							
Unit Cost							

TOTAL

\$450,000

TOTAL ESTIMATED PROJECT COST: \$450,000

FY15	7% Estimate	\$30,000
FY16	93% Estimate	\$420,000

CAPITAL PROJECT SUMMARY

Project Name: Force Account – West Street, Reading

Project #: 212

Project Schedule: FY15-16

Project Manager: Peter Price, Chief Engineer

Reason for Expenditure:

Mass DOT is reconstructing West Street, in Reading, from the Woburn town line to the intersection of Summer Avenue. The reconstruction includes the widening of the roadway, the installation of traffic signals and the resurfacing of the road. This work will require the RMLD to relocate poles, transfer construction, lower and raise manhole covers, and relocate conduits.

Brief Description/Scope:

Replace approximately 38 poles and 15 anchors, frame and transfer primaries, secondaries, transformers, services, and street lights on 42 poles, relocate primary conduits and cables feeding Westcroft Circle, and lower and raise manhole frames and covers. All work except for the lowering and raising of the manhole frames and covers is reimbursable.

Barriers:

Verizon is responsible to replace 4 of the poles. The RMLD will need to petition the Town of Reading for any of the pole and conduit relocations. The Mass DOT has approved these relocations, but they must be formally presented and approved by the Town.

Change in Scope of Work From Prior Fiscal Year:

Status Update:

It is anticipated that 33% of this work will be completed in FY15. The project will continue into FY16.

FISCAL 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: FA (MassDOT) West Street, R

SCHEDULE: FY15-16

PROJECT #: 212

ITEM	CREW WEEKS 2-Man	RMLD CREW LABOR COST	RMLD CREW VEHICLE COST	OTHER LABOR	OTHER VEHICLE	NEW MATERIAL & MISC	TOTAL
Install approximately 38 poles and 15 anchors on West Steet between South Street and Summer Avenue.	9	\$52,448	\$8,280			\$23,000	\$83,728
Unit Cost		\$5,828	\$920			per week	
Frame 42 poles for spacer cable circuit, primary laterals and secondary cable and transfer.	11	\$64,104	\$10,120			\$7,500	\$81,724
Unit Cost		\$5,828	\$920			per week	
Relocate primary conduits and cables feeding Westcroft Circle to new pole (working with Underground Crew).	2	\$11,655	\$1,840				\$13,495
Unit Cost		\$5,828	\$920			per week	
Underground Contractor (2-man) See above	1	\$5,902	\$40				\$5,942
Unit Cost		\$5,902	\$40			per week	
Engineering Labor				\$11,160			\$11,160
3.0 weeks				\$3,720		per week	
Police Details (if applicable)				\$27,288			\$27,288
11.0 weeks				\$2,481		per week	

Total RMLD Crew Weeks 22.0
Total U/G Crew Weeks 1.0

	\$134,109	\$20,280	\$38,448	\$30,500
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TOTAL ESTIMATED PROJECT COST: \$223,337

FY15	33%	Estimate	\$73,701
FY16	67%	Estimate	\$149,636

CAPITAL PROJECT SUMMARY

Project Name: Pole Line Upgrade – Lowell Street, Wilmington **Project #:** 102

Project Schedule: FY15-16 **Project Manager:** Peter Price, Chief Engineer

Reason for Expenditure:

This section of Lowell Street currently has three (3) spacer cable circuits and two (2) aerial cable circuits. These poles are under-sized, under-classed, and over 30 years old. This project will upgrade the poles to the proper strength and height class, create the proper clearance between utilities, and benefit the long-term reliability of the system.

Brief Description/Scope:

Replace approximately twenty poles with 55'-1 poles along a section of Lowell Street in Wilmington, between West Street and Woburn Street. Frame poles with new hardware and transfer the three (3) spacer cable circuits, the two (2) aerial cable circuits, two (2) gang operated switches, four (4) primary laterals, secondaries, services, and street lights.

Barriers:

This is a Verizon set area, but they will not set 55' poles. Therefore, RMLD will set poles.

Change in Scope of Work From Prior Fiscal Year:

Increased pole replacement area to include the West and Lowell Street intersection as well as the Woburn and Lowell Street intersection. This increased the number of poles to be replaced to 30 and the setting of two (2) new poles.

Status Update:

It is anticipated that 60% of the project will be completed by the end of FY15.

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Pole Line Upgrade - Lowell Street, W

SCHEDULE: FY15-16

PROJECT #: 102

ITEM	CREW WEEKS	RMLD CREW LABOR COSTS	RMLD CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC	TOTAL
2-man 14.0 Install approximately twenty (20) 55' poles on Lowell Street between West Street and Woburn Street. Transfer three (3) spacer cable circuits and two (2) aerial cable circuits.		\$81,586	\$12,880			\$12,000	\$106,466
	Unit Cost	\$5,828	\$920			per week	
8.0 Frame 20 poles for three (3) spacer cable circuits and two (2) aerial circuits with new brackets and hardware.		\$46,621	\$7,360			\$7,300	\$61,281
	Unit Cost	\$5,828	\$920			per week	
8.0 Install 12 additional poles.		\$46,621	\$7,360			\$10,000	\$63,981
	Unit Cost	\$5,828	\$920			per week	
Unit Cost							
Engineering Labor: 3 week(s)				\$11,160			\$11,160
	Unit Cost			3,720		per week	
Police Details (if applicable) 16.0 week(s)				\$39,692			\$39,692
	Unit Cost			\$2,481		per week	
Total RMLD Crew Weeks	30.0						
Total U/G Crew Weeks							
TOTAL		\$174,828	\$27,600	\$50,852		\$29,300	

TOTAL ESTIMATED PROJECT COST: \$282,579

FY15	60%	Estimate	\$169,548
FY16	40%	Estimate	\$113,032

CAPITAL PROJECT SUMMARY

Project Name: Distribution Protection and Automation **Project #:** 103

Project Schedule: FY15-16 **Project Manager:** Peter Price, Chief Engineer

Reason for Expenditure:

Increase distribution line protection.

Brief Description/Scope:

Install 13.8kV feeder reclosers on 13.8kV feeders to increase feeder protection along the primary distribution feeders serving all four (4) communities.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

Status Update:

It is anticipated that 50% of this project will be completed in FY15.

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Distribution Protection and Automation

SCHEDULE: FY15-16

PROJECT #: 103

ITEM	CREW WEEKS	RMLD CREW LABOR COSTS	RMLD CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC	TOTAL
Purchase and Install: (4) Reclosers with SCADA ready controls	2-Man 4.0	\$23,310	\$3,680			\$100,000	\$126,990
	Unit Cost	\$5,828	\$920			\$25,000 each	
	Unit Cost						
	Unit Cost						
	Unit Cost						
Engineering Labor: 2 week(s)				\$7,440			\$7,440
	Unit Cost			\$3,720		per week	
Police Details (if applicable) 2.0 week(s)				\$4,961			\$4,961
	Unit Cost			\$2,481		per week	

Total RMLD Crew Weeks 4.0
Total U/G Crew Weeks

TOTAL	\$23,310	\$3,680	\$12,401	\$0	\$100,000
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TOTAL ESTIMATED PROJECT COST: \$139,392

FY15	50% Estimate	\$69,696
FY16	50% Estimate	\$69,696

CAPITAL PROJECT SUMMARY

Project Name: LED Street Light Implementation – All Towns **Project #:** 131

Project Schedule: FY16-18 **Project Manager:** Brian Smith
Engineering Project Manager

Reason for Expenditure:

Street light technology has advanced greatly over the years and has moved towards the installation and use of the more energy efficient and longer lasting LED replacements. In FY15, we are conducting an LED Street Light Pilot Program, which will allow us to evaluate the performance of, monitor the energy usage of, and get feedback on the lighting provided by this newer technology. Once the Pilot Program is complete, we will work with the towns to determine an implementation strategy for system-wide installation as appropriate.

Brief Description/Scope:

Purchase and install LED street lights for system-wide installation.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

Status Update:

FISCAL 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Substation Test Equipment SCHEDULE: FY16

PROJECT #: 134

ITEM	CREW WEEKS	RMLD CREW LABOR COST	RMLD CREW VEHICLE COST	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC	TOTAL
Purchase of various test equipment.						\$100,000	\$100,000

TOTAL 0.0 0 \$0 \$0 \$0 \$100,000

TOTAL ESTIMATED PROJECT COST: \$100,000

CAPITAL PROJECT SUMMARY

Project Name: Station 4 (Gaw) 35kv Potential Transformer Replacement **Project #:** 109

Project Schedule: FY16 **Project Manager:** Nick D'Alleva, Technical Services Manager

Reason for Expenditure:

The existing potential transformers are 30 plus years old and are in need of replacement.

Brief Description/Scope:

Purchase and replace six (6) 35kv potential transformers. Replace steel conduit and associated control wiring.

Barriers:

None.

Change in Scope of Work From Prior Fiscal Year:

Status Update:

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Station 4: 35kV PT Replacement

SCHEDULE: FY16

PROJECT #: 109

ITEM	CREW WEEKS 2-man	RMLD CREW LABOR COSTS	RMLD CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC.	TOTAL
Purchase and mount six (6) 35kV potential transformers and miscellaneous equipment.	1.0	\$5,828	\$920			\$20,000	\$26,748
Unit Cost		\$5,828	\$920			\$3,333 see box at left	
Labor: Senior Techs (2-man crew)				\$10,850	\$72		\$10,922
2 week(s)	Unit Cost			\$5,425	\$36	per week	
Labor: Technical Services Manager				\$3,763	\$18		\$3,781
1 week(s)	Unit Cost			\$3,763	\$18	per week	
Unit Cost							
Unit Cost							
Unit Cost							
Total RMLD Crew Weeks	1.0						
Total U/G Crew Weeks							
TOTAL		\$5,828	\$920	\$14,612	\$90	\$20,000	

TOTAL ESTIMATED PROJECT COST: \$41,450

SYSTEM

NEW PROJECTS

CAPITAL PROJECT SUMMARY

Project Name: Pole Line Upgrade – Woburn Street, Wilmington **Project #:** TBD

Project Schedule: FY16 **Project Manager:** Peter Price, Chief Engineer

Reason for Expenditure:

This section of Woburn Street currently has three (3) spacer cable circuits. These poles are under-sized, under-classed, and over 30 years old. This project will upgrade the poles to the proper strength and height class, create the proper clearance between utilities, and benefit the long-term reliability of the system.

Brief Description/Scope:

Replace approximately sixteen (16) main line poles and four (4) stub poles along a section of Woburn Street in Wilmington, between Concord Street and West Street. Frame poles with new hardware and transfer the three (3) spacer cable circuits, four (4) transformers, one (1) primary lateral, secondaries, services, and streetlights. Street lights will be changed to LED's, and transformers will be upgraded as part of the transformer maintenance program.

Barriers:

This is a Verizon set area.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

n/a

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Pole Line Upgrade - Woburn Street, W.

SCHEDULE: FY16

PROJECT #: TBD

ITEM	CREW WEEKS	RMLD CREW LABOR COSTS	RMLD CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC	TOTAL
Assist Verizon with pole sets	2-man 2.0	\$11,655	\$1,840				\$13,495
	Unit Cost		\$5,828	\$920			per week
Frame 20 poles for three (3) spacer cable circuits with new brackets and hardware	6.0	\$34,966	\$5,520			\$7,300	\$47,786
	Unit Cost		\$5,828	\$920			per week
Install three (3) transformers	0.8	\$4,662	\$736				\$5,398
	Unit Cost		\$5,828	\$920			per week
Engineering Labor 2 week(s)				\$7,440			\$7,440
	Unit Cost			3,720			per week
Police Details (if applicable) 7.0 week(s)				\$17,365			\$17,365
	Unit Cost			\$2,481			per week
Total RMLD Crew Weeks		8.8					
Total U/G Crew Weeks							
TOTAL		\$51,283	\$8,096	\$24,805		\$7,300	

TOTAL ESTIMATED PROJECT COST: \$91,484

CAPITAL PROJECT SUMMARY

Project Name: Substation Equipment Upgrade

Project #: TBD

Project Schedule: FY16

Project Manager:

Nick D'Alleva

Technical Services Manager

Reason for Expenditure:

United Power Group and RMLD personnel have identified equipment that needs to be replaced or upgraded as a result of their condition assessment of our substation equipment.

Brief Description/Scope:

Major items include the replacement of the transformer LTC controls at Station #3, the purchase of remote racking devices for all our 15 Kv breakers, replacement cable tray covers for Station #4, redesign of the transfer scheme at Station #3 and various minor items at Stations #3, #4 and #5.

Barriers:

Availability of replacement parts.

Change in Scope From Prior Fiscal Year:

n/a

Status Update:

n/a

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Substation Equipment Upgrade

SCHEDULE: FY16

PROJECT #: TBD

ITEM	CREW WEEKS 2-man	RMLD CREW LABOR COSTS	RMLD CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC.	TOTAL
Materials						\$175,000	\$175,000
Unit Cost							
Labor: Senior Techs (2-man crew) 8 week(s)				\$43,399	\$288		\$43,687
Unit Cost				\$5,425	\$36	per week	
Labor: Technical Services Manager 4 week(s)				\$15,051	\$72		\$15,123
Unit Cost				\$3,763	\$18	per week	
Engineering Consulting Services						\$20,000	\$20,000
Unit Cost							
Unit Cost							
Unit Cost							
TOTAL				\$58,450	\$360	\$195,000	\$253,810

TOTAL ESTIMATED PROJECT COST: \$253,810

CAPITAL PROJECT SUMMARY

Project Name: Station 4: Switchgear/Breaker Replacement **Project #:** TBD

Project Schedule: FY16-17 **Project Manager:** Nick D'Alleva
Manager of Technical Services

Reason for Expenditure:

The existing switchgear and breakers at Station 4 are in excess of 40 years old. We will be performing an evaluation of the switchgear with the assistance of United Power Group. The existing breakers utilize an older air magnetic technology for interrupting fault current. We will be replacing the existing breakers with new vacuum type breakers.

Brief Description/Scope:

Replace existing air magnetic breaker with replacement vacuum breakers. Inspect and test the condition of the existing switchgear.

Barriers:

Lead time for replacement breakers. Condition of the existing switchgear.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

n/a

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Station 4: Switchgear/Breaker Replacement

SCHEDULE: FY16-17

PROJECT #: TBD

ITEM	CREW WEEKS 2-man	RMLD CREW LABOR COSTS	RMLD CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC.	TOTAL
Purchase (2) replacement breakers.						\$968,000	\$968,000
Unit Cost						\$484,000 each	
Labor: Senior Techs (2-man crew) 6 week(s)				\$32,549	\$216		\$32,765
Unit Cost				\$5,425	\$36	per week	
Labor: Technical Services Manager 4 week(s)				\$15,051	\$72		\$15,123
Unit Cost				\$3,763	\$18	per week	
Unit Cost							
Unit Cost							
Unit Cost							
TOTAL				\$47,600	\$288	\$968,000	

TOTAL ESTIMATED PROJECT COST: \$1,015,888

FY15	50%	Estimate	\$507,944
FY16	50%	Estimate	\$507,944

CAPITAL PROJECT SUMMARY

Project Name: Station 4: Battery Bank Upgrade

Project #: TBD

Project Schedule: FY16

Project Manager: Nick D'Alleva
Manager of Technical Services

Reason for Expenditure:

Battery bank two at Station 4 was identified as needing replacement during evaluation by our (substation) testing consultant, United Power Group. This battery bank is in excess of 20 years old.

Brief Description/Scope:

Replace the existing battery bank and install a battery monitoring system, which will bring important information back to our SCADA system in the RMLD Control Center.

Barriers:

None.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update From Prior Fiscal Year:

n/a

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Station 4: Battery Bank Upgrade

SCHEDULE: FY16

PROJECT #: TBD

ITEM	CREW WEEKS 2-man	RMLD CREW LABOR COSTS	RMLD CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC.	TOTAL
Materials						\$42,200	\$42,200
Unit Cost							
Labor: Senior Techs (2-man crew)				\$10,850	\$72		\$10,922
2 week(s)				\$5,425	\$36	per week	
Unit Cost							
Labor: Technical Services Manager				\$3,763	\$18		\$3,781
1 week(s)				\$3,763	\$18	per week	
Unit Cost							
Unit Cost							
Unit Cost							
Unit Cost							

Total RMLD Crew Weeks
Total U/G Crew Weeks

TOTAL	\$14,612	\$90	\$42,200
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TOTAL ESTIMATED PROJECT COST: \$56,902

CAPITAL PROJECT SUMMARY

Project Name: Distributed Generation

Project #: TBD

Project Schedule: FY16

Project Managers: Hamid Jaffari, Director of
Engineering and Operations
Peter Price, Chief Engineer

Reason for Expenditure:

Take advantage of ISO's market opportunity to reduce the cost of power purchase for RMLD ratepayers.

Brief Description/Scope:

RMLD is exploring an opportunity to install a 2-2.5 MW gas fuel generator as a pilot program to take advantage of New England ISO's capacity and transmission credits that lower power purchase costs for our ratepayers. Generating power on-site eliminates the cost, complexity, interdependencies, and inefficiencies associated with transmission and distribution. These credits are expected to increase substantially starting 2017, which makes the return of investment (ROI) 3 to 5 years.

Barriers:

Securing a site and permitting.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

n/a

FISCAL 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: 2 to 2.5 MW Distributed Generator

SCHEDULE: FY16

PROJECT #: TBD

ITEM	CREW WEEKS	RMLD CREW LABOR COST	RMLD CREW VEHICLE COST	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC	TOTAL
2 MW Generator Unit						\$2,100,000	\$2,100,000
Unit Cost							
Engineering and Design						\$20,000	\$20,000
Unit Cost							
Permitting and Legal Services						\$15,000	\$15,000
Unit Cost							
Installation and implementation.						\$14,000	\$14,000
Unit Cost							
Miscellaneous Costs						\$10,000	\$10,000
Unit Cost							
Testing and Commissioning	0.6	\$3,205	\$506			\$1,300	\$5,011
Unit Cost		\$5,828	\$920			per week	

TOTAL	0.0	3,205	\$506	\$0	\$0	\$2,160,300
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TOTAL ESTIMATED PROJECT COST: \$2,164,011

CAPITAL PROJECT SUMMARY

Project Name: Fiber Optic Testing Equipment

Project #: TBD

Project Schedule: FY16

Project Manager: Peter Price, Chief Engineer

Reason for Expenditure:

The RMLD relies on contractors to trouble shoot problems with the fiber optic network. With the expansion of the fiber optic network for the automation plan, this equipment would allow RMLD to locate and diagnose problems with the network. The fiber optic cable contractor would be used for splicing and terminating the fiber.

Brief Description/Scope:

Purchase optical test equipment and associated cables, adapter, cleaners, accessories, as well as necessary training.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

n/a

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Fiber Optic Equipment

SCHEDULE: FY16

PROJECT #: TBD

ITEM	CREW WEEKS 4-Man	RMLD CREW LABOR COSTS	RMLD CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC	TOTAL
Fiber Optic Equipment						\$15,000	\$15,000
	Unit Cost						
	Unit Cost						
	Unit Cost						
	Unit Cost						

TOTAL

\$15,000

TOTAL ESTIMATED PROJECT COST: \$15,000

CAPITAL PROJECT SUMMARY

Project Name: Fault Indicators

Project #: TBD

Project Schedule: FY16

Project Manager: Peter Price, Chief Engineer

Reason for Expenditure:

The RMLD has installed approximately 99 fault locators along the distribution circuits over the last 4 years to aid in fault locating.

Brief Description/Scope:

This project is for the purchase of 54 fault locators.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

n/a

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Fault Indicators

SCHEDULE: FY16

PROJECT #: TBD

ITEM	CREW WEEKS 4-Man	RMLD CREW LABOR COSTS	RMLD CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC	TOTAL
Fault Indicator						\$50,000	\$50,000
Police Details (if applicable) week(s)							
						per week	

TOTAL \$50,000

TOTAL ESTIMATED PROJECT COST: \$50,000

CAPITAL PROJECT SUMMARY

Project Name: Voltage Data Recorders

Project #: TBD

Project Schedule: FY16

Project Manager: Peter Price, Chief Engineer

Reason for Expenditure:

The Engineering department requires feeder data loggers for feeder load balancing, and voltage recorders for residential and commercial voltage complaint investigation and survey.

Brief Description/Scope:

Purchase a set of feeder data loggers, two single-phase voltage recorders, and one three-phase voltage recorder.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

n/a

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Voltage Data Recorders

SCHEDULE: FY16

PROJECT #: TBD

ITEM	CREW WEEKS 4-Man	RMLD CREW LABOR COSTS	RMLD CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC	TOTAL
Voltage Data Recorders						\$50,000	\$50,000
Police Details (if applicable) week(s)							

TOTAL \$50,000

TOTAL ESTIMATED PROJECT COST: \$50,000

SYSTEM

ANNUAL PROJECTS

CAPITAL PROJECT SUMMARY

Project Name: Transformers & Capacitors

Project #: 116

Project Schedule: Annual

Project Manager: Peter Price, Chief Engineer

Reason for Expenditure:

A major quantity of standard units is necessary for proposed projects and stock on an ongoing basis.

Brief Description/Scope:

- | | |
|---|--------------------|
| a) Three-phase padmount transformers (commercial services) | Quantity: 15 units |
| b) Single-phase padmount transformers for proposed subdivisions and stock. | Quantity: 40 units |
| c) Three-phase polemount transformers for proposed commercial projects and stock | Quantity: 31 units |
| d) Single-phase polemount transformers for proposed residential services and stock. | Quantity: 86 units |
| e) Submersible transformers for stock. | Quantity: 4 units |
| f) 1200 kVar capacitor banks. | Quantity: 4 units |

Barriers:

None anticipated at this time

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

n/a

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Transformers and Capacitors

SCHEDULE: FY16

PROJECT #: 116

ITEM	CREW WEEKS	CREW LABOR COST	CREW VEHICLE COST	OTHER LABOR	OTHER VEHICLE	NEW MATERIAL & MISC	TOTAL
a) Three-phase padmount transformers for proposed commercial services and stock 15 units						\$187,500	\$187,500
	Unit Cost					\$12,500 per unit	
b) Single-phase padmount transformers for proposed subdivisions and stock 40 units						\$100,000	\$100,000
	Unit Cost					\$2,500 per unit	
c) Three-phase polemount transformers for proposed commercial services and stock 31 units						\$201,500	\$201,500
	Unit Cost					\$6,500 per unit	
d) Single phase polemount transformers for proposed residential services and stock 86 units						\$129,000	\$129,000
	Unit Cost					\$1,500 per unit	
e) Submersible transformers for stock 4 units						\$20,000	\$20,000
	Unit Cost					\$5,000 per unit	
f) 1200 kVar capacitor banks 4 units						\$30,000	\$30,000
	Unit Cost					\$7,500 per unit	

TOTAL \$668,000

TOTAL ESTIMATED PROJECT COST: \$668,000

CAPITAL PROJECT SUMMARY

Project Name: Communication Equipment (for Fiber Optic) **Project #:** 126

Project Schedule: Annual **Project Manager:** Peter Price, Chief Engineer

Reason for Expenditure:

As the RMLD expands its use of the fiber optic network to establish communication with metering equipment, recloser controls, capacitor bank controls and other distribution equipment, the Department will create fiber nodes at various locations along the fiber optic network. Each node will require an enclosure, a fiber optic interface, a power supply, cabling, fiber optic cable, and the termination of the fiber optic cable.

Brief Description/Scope:

Purchase materials and procure fiber optic cable splicers as needed.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

n/a

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Communication Equipment (Fiber)

SCHEDULE: FY16

PROJECT #: 126

ITEM	CREW WEEKS 2-man	RMLD CREW LABOR COST	RMLD CREW VEHICLE COST	OTHER LABOR	OTHER VEHICLE	NEW MATERIAL & MISC	TOTAL
Fiber node materials to include the enclosure, patch panel, power supply and Ethernet switch.						\$40,000	\$40,000
8.0 units						\$5,000	
Unit Cost							
Contract labor and materials for splicing fiber.						\$25,000	\$25,000
8.0 units						\$3,125	
Unit Cost							
Fiber optic cable and hardware						\$15,000	\$15,000
Unit Cost							
Labor - Line Crews	2	\$11,655	\$1,840				\$13,495
Unit Cost							
\$5,828 \$920 per week							
Unit Cost							
Police Details (if applicable) 2 week(s)		\$4,961					\$4,961
Unit Cost							
\$2,481 per week							
TOTAL		\$16,617	\$1,840			\$80,000	

TOTAL ESTIMATED PROJECT COST: \$98,457

CAPITAL PROJECT SUMMARY

Project Name: Meters (including 500 Club)

Project #: 117

Project Schedule: Annual

Project Manager: Nick D'Alleva
Technical Services Manager

Reason for Expenditure:

Purchase of meters and metering equipment for new construction, upgrades, and failures.

Additionally, the existing "500 Club" commercial meters, which are manually read meters, will be replaced with meters that can be read remotely with the fixed network system.

Brief Description/Scope:

Two hundred residential and commercial meters as well as miscellaneous hardware will be purchases for stock.

The RMLD will complete change out of the "500 Club" commercial meters. In the same fashion as the commercial upgrade, the data will be transmitted to the RMLD via the fiber optic system, which encircles the territory. The new data will provide reads at the desktop and additional consumption information.

This fixed network offers the ability to remotely:

- a. perform all reads from the office;
- b. amend the frequency of reads to maintain the read cycle;
- c. monitor and discuss customer usage from a monthly, daily, or hourly perspective;
- d. provide information that can be used for the demand-side management program; and
- e. control distribution equipment, i.e., capacitor banks, distribution switches, reclosers, and water heater controllers.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Meters

SCHEDULE: FY16

PROJECT #: 117

ITEM	CREW WEEKS	RMLD CREW LABOR COST	RMLD CREW VEHICLE COST	OTHER LABOR	OTHER VEHICLE	NEW MATERIAL & MISC	TOTAL
For Stock: Residential and Commercial Meters 200 units						\$60,000	\$60,000
Unit Cost						\$300 each	
Locking sealing rings, seals and meter switches						\$20,000	\$20,000
Unit Cost						\$100 per meter	
500 Club - AMI Mesh System 50% of the cost of the AMI mesh system is expected to be spent in FY15. 50% is allocated in FY16.						\$99,968	\$99,968
Unit Cost							
<i>Technical Services Manager</i> Labor 1 week(s)				\$3,763	\$18		\$3,781
Unit Cost				\$3,763	\$18	per week	
<i>Senior Techs:</i> Labor 1.5 week(s) Regular Time				\$8,137	\$54		\$8,191
Unit Cost				\$5,424.91	\$36	per week	
<i>Meter Techs:</i> Labor 0.6 week(s) Regular Time				\$3,099	\$22		\$3,120
Unit Cost				\$5,164.45	\$36	per week	
<i>Network/System Administration</i> Labor 6.5 week(s)				\$19,966			\$19,966
Unit Cost				\$3,072		per week	
Engineering Labor 1 week(s)				\$3,720			\$3,720
Unit Cost				\$3,720		per week	
TOTAL				\$38,685	\$94	\$179,968	

TOTAL ESTIMATED PROJECT COST: \$218,746

CAPITAL PROJECT SUMMARY

Project Name: URD Upgrades – All Towns

Project #: 106

Project Schedule: Annual

Project Manager: Peter Price, Chief Engineer

Reason for Expenditure:

There are 244 +/- underground residential subdivisions in the RMLD service territory, of which, 65 +/- are over 25 years old. These subdivisions are in need of new primary cable and transformers. Some of the URDs are in step-down areas and need to be upgraded before they can be converted to 7,979 volts. Also, most of the existing transformers are live-front units. The new padmount transformers will be dead-front units, which will improve reliability by eliminating the possibility of animal contacts within the pad transformer.

Brief Description/Scope:

Replace primary and neutral cables, and padmount transformers as needed in the various URDs. Replace precast transformer pads with fiberglass box pads as needed for elevation requirements.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

n/a

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: URD Upgrades - All Towns

SCHEDULE: FY16

PROJECT #: 106

ITEM	CREW WEEKS 2-man	RMLD CREW LABOR COSTS	RMLD CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC.	TOTAL
Install approximately 40 padmount transformers (Transformers are included in annual transformer purchase)	10.0	\$58,276	\$9,200				\$67,476
Unit Cost		\$5,828	\$920			per week	
Install approximately 10,000 feet of 1/0 Al UG cable and 10,000 feet of #2 CU neutral.	14.0	\$81,586	\$12,880			\$30,000	\$124,466
Unit Cost		\$5,828	\$920			per week	
Materials: splices, elbows, terminations, connectors, box pads, tape, etc.						\$30,000	\$30,000
Unit Cost							
Underground Contractor: 16.8 week(s)				\$ 99,160	\$672		\$99,832
Unit Cost				\$5,902	\$40	per week	
Engineering Labor: 5 week(s)				\$ 18,599			\$18,599
Unit Cost				\$3,720		per week	
Police Details (if applicable) week(s)							
Unit Cost						per week	
Total RMLD Crew Weeks	24.0						
Total U/G Crew Weeks	16.8						
TOTAL		\$139,862	\$22,080	\$117,760	\$672	\$60,000	
TOTAL ESTIMATED PROJECT COST:							\$340,374

CAPITAL PROJECT SUMMARY

Project Name: Step-down Area Upgrades – All Towns **Project #:** 107

Project Schedule: Annual **Project Manager:** Peter Price, Chief Engineer

Reason for Expenditure:

There are 32 +/- step-down areas in the RMLD service territory. These areas on the RMLD distribution system were originally fed from 4kV distribution circuits. When RMLD began moving load over to the 13.8kV distribution circuits, most areas were converted and some areas were re-fed with pole-mount, step-down transformers. Most of the distribution system in these areas are 30+ years old and in need of upgrade before they can be converted.

Brief Description/Scope:

Replace poles, primary cable, secondary cable, and overhead transformers, as needed, in the various step-down areas. Convert areas to 13.8kV and remove step-down transformers.

Pole replacements will be charged to the pole replacement/inspection project.
Transformers will be upgraded as part of the transformer upgrade project.

Barriers:

Some areas are Verizon set areas.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

n/a

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Step-down Area Upgrades - All Towns

SCHEDULE: FY16

PROJECT #: 107

ITEM	CREW WEEKS 2-man	RMLD CREW LABOR COSTS	RMLD CREW VEHICLE COSTS	OTHER LABOR	OTHER VEHICLE	MATERIAL & MISC.	TOTAL
install 12,000' of 1/0 primary	16.0	\$93,242	\$14,720			\$12,000	\$119,962
Unit Cost		\$5,828	\$920			per week	
install 10,000' of 4/0 - 3/C sec cable	16.0	\$93,242	\$14,720			\$14,000	\$121,962
Unit Cost		\$5,828	\$920			per week	
Replace 40 transformers. (Transformers are included with annual transformer purchase.)	8.0	\$46,621	\$7,360				\$53,981
Unit Cost		\$5,828	\$920			per week	
Miscellaneous Hardware \$200 per pole for approximately 80 poles.						\$16,000	\$16,000
Unit Cost						\$200 per pole	
Unit Cost							
Engineering Labor 4 week(s)				14,880			\$14,880
Unit Cost				3,720		per week	
Police Details (if applicable) 10 week(s)				\$24,807			\$24,807
Unit Cost				\$2,481		per week	
Total RMLD Crew Weeks		40.0					
Total U/G Crew Weeks							
TOTAL		\$233,104	\$36,800	\$39,687		\$42,000	

TOTAL ESTIMATED PROJECT COST: \$351,591

CAPITAL PROJECT SUMMARY

Project Name: Service Installations
(Commercial and Residential) **Project #:** 112
113

Project Schedule: Annual **Project Manager:** n/a

Reason for Expenditure:

To install new and upgraded services for both residential and commercial/industrial customers in the service territory.

Brief Description/Scope:

- **Service Installations – Commercial/Industrial Customers:** This item includes new service connections, upgrades, and service replacements for commercial and industrial customers. This represents the time and materials associated with the replacement of an existing or installation of a new overhead service drop and the connection of an underground service, etc. This does not include the time and materials associated with pole replacements/installations, transformer replacements/installations, primary or secondary cable replacements/installations, etc. These aspects of a project are captured under Routine Construction.
- **Service Installations – Residential Customers:** This item includes new or upgraded overhead and underground services.

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year

n/a

Status Update:

n/a

FISCAL 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Service Installations-Commercial/Industrial

SCHEDULE: FY16

PROJECT #: 112

ITEM	CREW WEEKS <small>2-man</small>	CREW LABOR COST	CREW VEHICLE COST	OTHER LABOR	OTHER VEHICLE	NEW MATERIAL & MISC	TOTAL
Installation of new commercial/ industrial service connections.	3	\$17,483	\$2,760			\$13,389	\$33,632
	Unit Cost	\$5,828	\$920			per week	
	Unit Cost						
	Unit Cost						
	Unit Cost						
	Unit Cost						
Police Details (if applicable)	Unit Cost						

Total RMLD Crew Weeks 3.0
Total U/G Crew Weeks

TOTAL	3.0	\$17,483	\$2,760	\$13,389
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TOTAL ESTIMATED PROJECT COST: \$33,632

FISCAL 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Service Installations - Residential Customers

SCHEDULE: FY16

PROJECT #: 113

ITEM	CREW WEEKS 2-Man	RMLD CREW LABOR COST	RMLD CREW VEHICLE COST	OTHER LABOR	OTHER VEHICLE	NEW MATERIAL & MISC	TOTAL
<div style="border: 1px solid black; padding: 5px; min-height: 80px;"> Install new and upgraded service connections at approximately 360 units (approx 75-100 feet per installation). </div>	16	\$93,242	\$14,720			\$56,250	\$164,212
		Unit Cost	\$5,827.60	\$920		per week	
		Unit Cost					
		Unit Cost					
		Unit Cost					
		Unit Cost					
		Unit Cost					

Total RMLD Crew Weeks 16.0
 Total U/G Crew Weeks

	TOTAL	16.0	93,242	\$14,720	\$56,250
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TOTAL ESTIMATED PROJECT COST	\$164,212
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CAPITAL PROJECT SUMMARY

Project Name: Routine Construction

Project #: 114

Project Schedule: Annual

Project Manager: n/a

Reason for Expenditure:

Routine Construction covers capital projects that develop during the year involving items shown below.

Brief Description/Scope:

- Capital Construction – transformer installation, overhead and underground system upgrades, miscellaneous projects, pole damage, etc.
- Street Lights – new equipment installation
- Pole setting/transfers
- Engineering labor
- General Line Foreman labor
- Underground capital construction
- Police details associated with routine capital work
- Overtime associated with routine capital work

Barriers:

None anticipated at this time.

Change in Scope of Work From Prior Fiscal Year:

n/a

Status Update:

n/a

FISCAL YEAR 2016 CAPITAL BUDGET COST SHEET

CAPITAL PROJECT NAME: Routine Construction

SCHEDULE: FY16

PROJECT #: 114

ITEM	CREW WEEKS <small>2-man</small>	CREW LABOR COST	CREW VEHICLE COST	OTHER LABOR	OTHER VEHICLE	NEW MATERIAL & MISC	TOTAL
a) Capital Construction	20	116,552	\$18,400			\$100,000	\$234,952
	Unit Cost	5,828	\$920			per week	
b) Street Light Installations	4	23,310	\$3,680				\$26,990
	Unit Cost	5,828	\$920			per week	
c) Pole Setting/Transfers	30	174,828	\$27,600			\$100,000	\$302,428
	Unit Cost	\$5,828	\$920			per week	
d) Engineering Labor				\$29,759			\$29,759
8.0 weeks	Unit Cost			\$3,720		per week	
e) General Line Foreman Labor				\$102,227			\$102,227
26.0 weeks	Unit Cost			\$3,932		per week	
f) U/G Construction	1.5	\$8,854	\$60			\$100,000	\$108,914
	Unit Cost	\$5,902	\$40			per week	
g) Police Details				\$128,999			\$128,999
52.0 weeks	Unit Cost			\$2,481		per week	
h) Overtime	10	\$56,575	\$9,200				\$65,775
	Unit Cost	\$5,657.50	\$920			per week	
Total RMLD Crew Weeks	54.0						
Total U/G Crew Weeks	1.5						
TOTAL	55.5	<u>\$380,118.74</u>	<u>\$58,940</u>	<u>\$260,985</u>		<u>\$300,000</u>	

TOTAL ESTIMATED PROJECT COST: \$1,000,044

RMLD Board of Commissioners Committees and Assignments
June 12, 2014

Audit (Including Town of Reading Audit)

Philip Pacino

Robert Soli

Recommend audit findings to the Board.

One member of Audit Committee meets at least semiannually with the Accounting/Business Manager on RMLD financial issues.

Town of Reading Audit Committee - Sit on the Town of Reading Audit Committee and select firm that performs annual financial audit or RMLD pension trust.

Budget Committee

John Stempeck, Chair

Robert Soli

Thomas O'Rourke

Recommend Operating and Capital Budgets to the Board.

Recommend actuaries and actuary findings to the Board.

Make recommendation to RMLD Board for legal counsel.

Policy Committee

Philip Pacino, Chair

John Stempeck

Thomas O'Rourke

Recommend changes of Board policies to RMLB.

Assignments

Accounts Payable

Thomas O' Rourke - July

David Talbot - August

Robert Soli - September

Philip Pacino - October

Thomas O'Rourke - November

John Stempeck - December

David Talbot - January

John Stempeck - February

Philip Pacino - March

Thomas O'Rourke - April

Robert Soli - First Back Up

Review and approve payables on a weekly basis.

This position is rotational. It requires one signature.

No Commissioner may serve more than three consecutive years on this Committee and must take a year leave before returning to this Committee.

Assignments

Payroll - Four Month Rotation

Philip Pacino, August - November

David Talbot, December - March

Thomas O'Rourke, April - July

Robert Soli - First Back Up

Review and approve payroll. This position is rotational every four months. It requires primary signer and one back-up.

No Commissioner can serve more than three consecutive years on this Committee and must take a year leave before returning to this Committee.



Reading Municipal Light Department

Organizational Assessment Findings & Recommendations

Board of Commissioners Meeting

Presented by:

Steve Rupp

May 2015

Agenda

- > Study Objectives & Approach
- > Tasks
- > Findings
- > Recommendations

Study Objectives & Approach

- > Perform Organizational Study of RMLD's core business of delivering electric service, including review of:
 - > Overall RMLD's performance & structure
 - > Best practices
 - > Talent management initiatives
- > Interviews & documentation analysis were conducted to complete:
 - > Current Situation Analysis
 - > Benchmarking & Salary Comparison
 - > Organizational Effectiveness Assessment
 - > Best Practices Review

CSA Findings – Essential Improvements

- > RMLD is a utility in transition from reactive to proactive state
- > Many essential changes implemented:
 - > Cost of service study resulting in redesign of electricity rates
 - > Improvement in procurement process
 - > Improvement in financial reporting format
 - > Establishment of Career Development Plans (CDP)
 - > Efforts to improve internal communication
 - > Efforts to develop technology roadmap
 - > Developed maintenance plans to proactively improve system operations

CSA Findings - Issues

- > The Human Resource (HR) function is focused on traditional personnel responsibilities and not on critical talent management initiatives such as career development, recruitment and succession planning
- > The current organizational structure limits the effectiveness and efficiency of the utility
 - > Each core function needs one point of accountability at the Executive level
- > Opportunities to improve leadership team development are apparent
 - > Progress achieved related to members of Executive Team working together, however, can be improved
 - > Leadership development across organization essential to implementing and managing necessary changes

Benchmarking - Findings

Measure	RMLD Results (CY 2013)		
	Better than Average	At or Near Average	Worse Than Average
Financial Performance			
Liquidity – Current ratio		√	
Operating income per revenue dollar			√
Operating ratio			√
Operational Performance			
Power supply expense	√		
Purchase power expense			√
A&G Expense per retail customer	√		
Customer accounting, service, and sales expense per customer		√	
Customer accounting, service, and sales expense per MWH	√		
Distribution O&M per circuit mile	√		
Distribution O&M per customer	√		

Benchmarking against neighboring electric service providers and peer utilities indicates that RMLD performs well in nearly every performance metric

Salary Comparison - Findings

RMLD's current salary ranges for most positions are in alignment with the industry/market.

Best Practices – Findings

Meets Best Practices	Working Towards Meeting Best Practices	Does Not Meet Best Practice Performance Level
<ul style="list-style-type: none"> Competitively Priced Services Resource Efficiency and Conservation 	<ul style="list-style-type: none"> Strategic Planning Financial Planning, Reporting and Risk Management Safety Culture Customer Service and Engagement Information and Operating Technologies Asset Management Geospatial Information Systems Operational Resiliency Regulatory and Legislative Compliance Infrastructure Planning Adequate facilities 	<ul style="list-style-type: none"> Workforce Development Organizational Effectiveness Leadership Development Work Management Project Management

Leidos conducted extensive review of how well RMLD employs best practices in the operation of the utility based on best practices developed and recognized by utility and industry associations.

1. Workforce Development Recommendations

- > Develop a comprehensive Workforce Development Plan that includes:
 - > A Forecast of Future Workforce Needs
 - > Succession Plans for Key Positions
 - > Updated Job Descriptions for all Positions
 - > Consistent Performance Appraisal Performance Process
 - > Accelerate Recruiting Efforts

2. Organizational Effectiveness Recommendations

- > RMLD should consider reorganizing its organizational structure to improve its overall effectiveness and performance as follows:
 - > Reorganize to Better Align Functions
 - > Create a Finance and Administrative Division
 - > Expand Engineering Group
 - > Align Customer Service under the Integrated Resources Division
 - > Expand the Integrated Resources Division to include a Marketing and Customer Programs area
 - > Formalize Business Processes and Performance
 - > Develop and Implement Internal and External Communications Plans
- > Assess Organizational Culture and Employee Satisfaction

3. Leadership Development Recommendations

- > RMLD needs to invest efforts in developing an effective and strong leadership and team:
 - Assess Leadership Styles
 - Provide Management and Leadership Training
 - Provide Cross-Divisional Management Training

4. Project Management Recommendations

- > RMLD needs to further develop project management practices and processes
 - Develop Project Management Policies and Procedures
 - Establish Project Management Training
 - Add Project Management Experience and Certification to Job Descriptions
 - Establish Project Management Performance Expectations

5. Work Management Recommendations

- > RMLD needs to develop effective work management and processes and procedures
 - Develop Work Management Business Processes
 - Implement Modern Work Management System

Next Steps and Implementation

- > RMLD is overall performing acceptably with a few areas needed attention to ensure that this level of performance can be sustained and improved

Implementation Timeline

ID	Description	CY 2015				CY 2016				CY 2017				CY 2018	
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q1	Q2
Establish Planning Culture															
1.1	Update 2008 Strategic Plan														
1.2	Establish Planning Culture														
1.3	Update Integrated Resource Plan														
1.4	Update Six-Year Plan														
1.5	Develop Electric System Master Plan														
Develop an Effective and Sustainable Workforce															
2.1	Develop Workforce Development Plan														
2.2	Develop Succession Plans														
2.3	Update Job Descriptions														
2.4	Implement Consistent Performance Review Process														
2.5	Hire Additional HR Personnel														
2.6	Increase Efforts to Fill Vacant Positions														
Improve Organizational Effectiveness															
3.1	Reorganized to Better Align Functions														
3.2	Create New Finance and Administrative Division														
3.3	Align Customer Service under the Integrated Resources Division														
3.4	Expand Engineering Group														
3.5	Formalize Business Process and Performance Measurement														
3.6	Develop and Implement Internal and External Communications Plans														
3.7	Assess Organizational Culture and Employee Satisfaction														
Develop Leadership Capabilities															
4.1	Assess Leadership														
4.2	Provide Management and Leadership Training														
4.3	Provide Cross-Divisional Management Training														

Implementation Timeline (cont.)

ID	Description	CY2015				CY2016				CY2017			CY2018		
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2		
Establish Project Management Culture															
5.1	Develop Project Management Policies and Procedures														
5.2	Establish Project Management Training Plan														
5.3	Add Project Management Experience and Certifications to Job Descriptions														
5.4	Establish Project Management Performance Expectations														
Ensure Competitively Priced Services															
6.1	Continue Regular Cost of Service and Rate Design Review														
6.2	Increase Customer and Engagement and Education of Alternate Rates														
Improve Financial Planning and Risk Management															
7.1	Review and Update Reserve Policies														
7.2	Establish a Risk Management Committee and Enterprise Risk Management Plan														
7.3	Develop a Succession Plan for the Manager of Accounting and Business														
7.4	Formalize Financial and Accounting Business Processes														
Strengthen Safety Culture															
8.1	Review Board Safety Policy														
8.2	Develop Injury and Illness Prevention Program														
Diversify Resources															
9.1	Develop Distributed Generation Penetration Study														
9.2	Review Cost Effectiveness and Economic Potential for End-Use Measures														
Establish a Culture of Compliance															
10	Assign Compliance Manager and Develop Compliance Plan and Requirements														
Improve Customer Service															
11	Conduct Customer Satisfaction Surveys														
11	Conduct Post Transaction Surveys														
11	Develop and Implement Customer Engagement Plan														
Plan for Future Technologies															
12	Complete Operating Technology Roadmap														

Implementation Timeline (cont.)

ID	Description	CY 2015				CY 2016				CY 2017				CY 2018	
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Focus on Asset Management															
13	Develop and Implement an Asset Management Plan														
13	Develop and Implement Asset Management Business Processes														
13	Implement Asset Management System														
13	Develop Customer Service Manual														
Leverage Geographic Information Systems															
14	Conduct Robust GPS-based Inventory of Assets and Infrastructure														
14	Adopt and Implement Industry Standard Common Information Model														
14	Develop and Implement Business Processes for GIS Management														
14	Provide GIS Training for Engineering and Operations														
Formalize and Enhance Work Management															
15	Develop Work Management Business Processes														
15	Implement Modern Work Management System														
Plan for Resiliency															
16	Develop Disaster Recovery and Business Continuity Plans														
Enhance Facilities															
17	Enhance current workspace														

Questions?

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RMLD



Reading Municipal Light Department

RELIABLE POWER FOR GENERATIONS

ELECTRIC SYSTEM RELIABILITY STUDY

- System Data Collection
- Site Visits and Condition Assessment
 - System Engineering Practices
 - Substation Infrastructure
 - Distribution Infrastructure

Process

- Compilation of data
- Analysis of data and field surveys
- Recommendations

Substation Assessment

- Age and condition of facilities
- NESC compliance
- Standard utility practice

Substation 3 - Deficiencies

- Repair broken ground wire on gate
- Correct CT grounding issues
- Upgrade of relays for future automation

Substation Assessment

Substation 4 - Deficiencies

- Repair fencing and grounding issues
- Remove vegetation on fences
- Remove debris piled against fences
- Remove bird and wasp nests in transformer fans
- Repair / replace broken cable trench covers
- Replace transformer bushing
- Replace aged breakers
- Transformers D & E - install oil containment
- Replace aged transformers as testing dictates

Substation 5 - Results

- Correct erosion issues
- Replace age of transformers as testing dictates
- Upgrade bus duct due to deterioration
- Replace aged switchgear

Distribution Assessment

Deficiency - Construction Standards

- Inconsistent pole top assemblies and framing
- Improve efficiency of materials / stores
- Improve efficiency of tooling

Deficiency - Design Standards

- Ensures NESC compliance
- Implement design procedures to ensure proper:
 - Pole sizing
 - Guying applications
 - Conductor / Cable Sizing / Capacity Standards
 - Transformer sizing
 - Pulling tensions
 - SAG calculations

Distribution Assessment

Deficiency - Joint Use Agreement

- Current Agreement - January 1, 1980
- Agreement should be updated to include:
 - Minimum Engineering, Construction, Maintenance Standards
 - Inventory of Attachments
 - Liability issues
 - Removal of stub poles
 - Notifications of Attachment
 - Pole ownership issues
 - Pole inspection schedules and responsibilities

Pole Sizing - Deficiency

- Large number of poles appear undersized
- Implement Design Calculation Process
 - NESC compliance
 - Liability mitigation

Distribution Assessment

Pole Guying - Deficiency

- Bowing / leaning poles
- NESC compliance
- Implement standard guying applications

Transformers - Observed Deficiencies

- Condition of cabinets
- Improper signage
- Locking mechanisms
- Vegetation impeding access
- Live front transformers
- Broken or missing grounds
- Lack of animal guards

Distribution Assessment

Pole Inspections - Maintenance Programs

- Program - 10% per year
- Currently - 30% failure rate
- Up to 180 poles / year replacement
- Expand Program to Verizon-owned poles

Grounding - Recommended Program

- Minimum 4 grounds / mile (NESC)
- 25 ohm / ground
- Lightning arrester applications

Distribution Assessment

Vegetation Management - Maintenance Program

- Largest cause of outages
- 3-year cycle recently implemented

System Planning - Recommended Program

- Long-Range Plan (10 years)
- Short-term Capital Improvement Plans
- Establish System Design Criteria
- Develop system model
- Track system loading
 - Substation transformer
 - Distribution circuit

System Planning

- Booth & Associates high level analysis
- Created basic system model
 - Voltage analysis
 - Capacity analysis
 - Fault current analysis

System Planning - Deficiency

Loading Analysis - Substation Transformers

- 4A, 4C currently loaded above base capacity
- 4A, 4C exceed maximum rating Year 11, 16
- 4B exceeds base » Year 3
- 4E, 5E exceed base » Year 9
- 3B exceeds base » Year 11

System Planning - Deficiency

Loading Analysis - Substation Transformers

- N minus 1 Contingency
- Estimated:
 - Sub 3 fails in Year 6
 - Sub 4 fails in Year 1
 - Sub 4 (DE) and Sub 5 fail in Year 6

System Planning

Loading Analysis - Circuit Exits

CONDUCTOR	NORMAL AMPACITY (AMPS)	EMERGENCY AMPACITY (AMPS)
500 Cu	518	553
500 Cu (duct)	290	310
750 Cu	610	654
750 Cu (duct)	350	375
1000 Cu	632	673
1000 Cu (duct)	390	415

System Planning - Deficiency

Loading Analysis - Circuit Exits

- Nine (9) loaded above 100%
- Eighteen (18) loaded above 60%

System Planning - Deficiency

Loading Analysis - Circuits

- 3W13 - circuit capacity (Year 10)
- 4W9 - circuit capacity (Year 7)
- 4W23 - circuit capacity / low voltage (Year 6)
- 4W24 - low voltage
- 4W28 - circuit capacity (Year 4)
- 4W30 - circuit capacity (Year 10)
- 5W5 - low voltage (Year 3)
- 5W9 - low voltage (Year 5)

System Planning - Recommendation

Proposed Wilmington Substation

- Serves high-density load center
- Relieves loading condition
 - Sub 4 and Sub 5
 - Circuits feeding area

System Planning

System Losses

- 2014 - 3.7% losses
- Acceptable for utility

System Planning - Recommended Program

System Protective Coordination

- Evaluated Substation protective devices
- Evaluated recloser / breaker application
- Evaluated fuse applications
- Recommend Comprehensive Coordination Study

System Planning - Recommended Program

Operations and Maintenance

- Typical O & M expenditure » 2.5% of plant
- Implemented Programs:
 - Tree Trimming
 - Pole Inspection
 - Substation Testing and Inspection
 - Distribution Transformer Replacement
 - Training

System Planning

System Reliability

- Current CAIDI and SAIFI numbers better than Regional and National Averages
- Degradation of reliability indices increases exponentially in relation to age and condition of infrastructure
- Proactive O & M Programs needed to maintain reliability record

System Planning

Safety

- Deficiency - lack of formal Arc Flash Program
- Completion of Arc Flash analysis
- Arc Flash training
- Regularly-scheduled Safety Meetings

Organization

- LEIDOS - lead on Organization Study
- Booth & Associates focus on Engineering:
 - Adequacy of staffing
 - Major job responsibilities

Organization - Recommended Program

- Expanded job responsibilities
 - Design and Calculations
 - Staking and NESC compliance
 - Grid Modernization
- Expanded training for existing staff
- Likely need for additional technical personnel

Organization - Recommended Program

Goals

- Engineering duties in-house
- Provide career path » merit-based
- Get five (5) engineers to ‘System Engineer’ level
 - Capable of performing all reactive & proactive Maintenance Programs system-wide
 - Exhibits project management skills
 - Each with a specialized skill and a back-up specialization
- Establish an ‘on-call’ rotation

Grid Modernization - Mandated Plan

- Mandated by Massachusetts DPU 12-76 B
- Grid Modernization Plan (GMP)
- Implementable over 10 years
- Objectives:
 - Outage reduction
 - Demand optimization
 - Distributed resource integration
 - Work force and asset management

Grid Modernization - Mandated Plan

- GMP complete
- Staged implementation in progress
 - GIS
 - AMI
 - CIS
 - WindMil[®]

Grid Modernization - Mandated Plan

- Implementation
 - SCADA Upgrade
 - Feeder Automation
 - Substation Automation
 - Demand Response
 - Distributed Generation
 - Demand-side Management
 - Transformer Loading Management

Grid Modernization - Deficiency

- GIS
 - RFP ready to issue for GIS upgrade
 - GIS » hub of System Operations
 - Integrate with Windmil[®], CIS, AMI

Grid Modernization - Mandated Plan

- Distributed Generation
 - Component of DPU Order
 - Load-shedding capability on-demand
 - Credits from New England ISO
 - No loss of revenue
 - Reasonable Return-on-Investment

Utilization of Fiber Loop

- Primary function » RMLD communications and data transfer
- Natural expansion thru Grid Modernization

Utilization of Fiber Loop (outside of core business)

- Comprehensive, realistic Study and Business Plan a necessity to evaluate potential for other fiber ventures
- RMLD currently leasing dark fiber

System Deficiencies

- Arc Flash Study
- Construction and Design Standards
 - Guying applications
 - Pole sizing
 - NESC compliance
- System Planning
- GIS
- Documented Maintenance Programs
- Pole Attachment Agreements

Recommendations

YEAR	RECOMMENDATION	COST
2015-2016	Replace cable trench covers at Sub 4 (should be expense but most put large investments in capital)	\$100,000
2015-2016	Sub 5 bus duct from transformer to switchgear has reached the end of useful life and should be replaced with the switchgear replacement	\$400,000
2015-2016	Replace fence at Sub 4 and fix grounding issues	\$100,000
2015-2016	Rebuild pole line along Lowell Street	\$375,000
2015-2016	Complete AMI Upgrade and RF Mesa Network	\$350,000
2015-2016	Implement GIS Upgrade Program	\$350,000 - \$750,000
2015-2016	Implement Arc Flash Study Analysis	\$30,000
2015-2016	Develop Construction Standards	in house
2015-2016	Update Joint-Use Agreement with Verizon	in house
2015-2016	Replace bushings on Sub 4 transformer	\$150,000
2015-2016	CT wiring at Sub 3 should be fixed. The CT circuits should only be bonded to grounding in exactly one spot.	O & M
2015-2016	Sub 3 has NO under-frequency trips. Relay is not programmed to trip.	O & M

Recommendations

YEAR	RECOMMENDATION	COST
2015-2016	Fence grounding is not up to Code. Fabric and barbed wire should be grounded.	O & M
2015-2016	Earth / gravel around fence at Sub 5	O & M
2015-2016	Interface CIS with GIS platform	in house
2015-2016	Create Milsoft Windmil [®] model	in house
2015-2017	Complete SCADA software and hardware upgrade	\$350,000
2015-2017	Upgrade main feeder of Circuit 5W9 to 795 to address voltage and conductor capacity issues (1.6 miles)	\$240,000
2015-2019	Upgrade UG circuit exits 3W5, 3W13, 4W9, 4W14, 4W16, 4W23, 4W24, 4W28, 4W30, 5W4 to parallel 750 Cu	\$850,000
2015-2020	Replace breakers at Sub 4 due to age and condition	\$3,000,000
2015-2024	Pole Inspection and Replacement Program. RMLD currently inspects 10% of RMLD-owned poles per year. Negotiate with Verizon to address Verizon-owned poles. Total 13,000 poles.	\$9,000,000

Recommendations

YEAR	RECOMMENDATION	COST
2015-2024	Continued implementation of GMP	\$100,000
	• Outage Management (OMS)	\$100,000
	• Transformer Loading Management (TLM)	\$100,000
	• Demand Response (DR)	\$100,000
	• Demand Side Management (DSM)	\$100,000
2016	• Distributed Generation Program	\$11,000,000
	Upgrade UG circuit exit 4W7 to parallel 750 Cu	\$70,000
2016-2017	Upgrade main feeder of Circuit 5w5 to 795 to address voltage and conductor capacity issues (2.5 miles)	\$375,000
2016-2017	New Wilmington Substation (land acquisition and design)	\$750,000
2016-2017	Upgrade main feeder of Circuit 4w24 to 795 to address voltage and conductor capacity issues (1.5 miles)	\$225,000
2016-2017	Complete comprehensive distribution system analysis upon GIS completion	in house
2016-2019	Complete the 4 kV Conversion Program	\$1,500,000
2016-2019	Sub 3 does have SEL relays but they are all legacy models that don't provide the function (especially communication) of today's versions. If the plan is to have a fully automated system then: Replace the SEL relays with the modern version. Should be able to replace in existing hole and wiring.	\$200,000
2017-2019	New Wilmington Substation (procurement, design, construction & commission)	\$4,250,000

Recommendations

YEAR	RECOMMENDATION	COST
2017-2019	Sub 5 switchgear is at the end of useful life. The relaying needs to be updated for the system automation project. The existing breakers are 2008 vintage but should not be reused. They can be sold on the open market.	\$1,200,000
2017-2019	Upgrade UG circuit exits 3W7, 4W5, 5W5, 5W9 to parallel 750 Cu to increase circuit capacity	\$280,000
2017-2024	Feeder Automation - complete System Coordination Study in conjunction	\$4,000,000
2018	Upgrade main feeder of Circuit 4w28 to 1000 Cu to address voltage and conductor capacity issues (0.3 miles)	\$60,000
2019	Substation Automation	\$112,000
2019-2016	Upgrade UG circuit exits 4W6, 5W8 to parallel 750 to increase circuit capacity	\$120,000
2020	Upgrade main feeder of Circuit 4w23 to 795 to address voltage and conductor capacity issues (1.1 miles)	\$165,000
2021-2023	Upgrade UG circuit exits 3W18, 4W4, 4W10, 4W18 to parallel 750 to increase circuit capacity	\$370,000
2021-2023	Upgrade main feeder of Circuit 4w9 to 795 to address voltage and conductor capacity issues	\$75,000
2024	Review and upgrade electric system comprehensive analysis	\$100,000

Recommendations

YEAR	RECOMMENDATION	COST
2024-2025	Transformers D and E replacement at both Sub 4 and Sub 5. They are approaching their end of useful life.	\$3,400,000
2024-2025	Install oil containment for Transformers D and E at Sub 4	\$100,000
2024-2026	Upgrade UG circuit exits 3W8, 4W12 to parallel 750 Cu to increase circuit capacity	\$180,000
2024-2026	Upgrade main feeder of Circuit 4w30 to 795 to address voltage and conductor capacity issues	\$165,000
2024-2026	Replace control panels for Ring bus at Sub 4	\$200,000

Questions?

Adjourn



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**RMLD Policy No. 2
SURPLUS MATERIAL**

Revision No.5

Commission Vote/Effective Date _____

General Manager/Date

Next Review Date

I. PURPOSE

The purpose of this Policy No. 2 SURPLUS MATERIAL is to provide administrative controls and procedures for use by the RMLD in disposing of surplus property to maximize the value of the disposal of such surplus property to RMLD and its ratepayers. This policy does not apply to the disposal of real estate.

II. DETERMINATION OF SURPLUS PROPERTY

Surplus property is personal property in the custody and control of RMLD which is either:

- (a) In excess of RMLD's needs due to changes in operations or personnel or other changes in circumstances;
- (b) Replaced by new or substitute property;
- (c) Damaged and non-repairable or uneconomic due to costs of repairs;
- (d) In poor or hazardous condition; or
- (e) Obsolete and no longer suits RMLD's needs.

Each RMLD Department shall identify property that it deems to be surplus. The General Manager or his/her designee shall make the determination whether any such property constitutes surplus to RMLD's needs and shall be designated for disposal. Such determination shall be made in writing identifying the reasons for declaring the property surplus.

III. ASSIGNING VALUE

Upon declaring property as surplus, the estimated value of the property shall be determined. RMLD will determine the fair market value ("FMV") of such property based on a minimum of two (2) relevant and comparable industry sources. To the extent two suitable sources are not available due to the unique nature of the item(s), RMLD will utilize the best available sources. For consumer motor vehicles, FMV shall be estimated based on Kelley Blue Book, Edmunds, NADA Guides or any other nationally recognized service that values vehicles similar to those being disposed. For other property, including commercial or service

vehicles not listed in Kelley Blue Book, Edmunds, NADA Guides or a similar source, FMV shall be estimated based on quotes, trade-in offers, available sales data, appraisal or industry sources for similar property or vehicles, as may be adjusted for specific make and model, year, condition, and special equipment and features, and other factors deemed relevant. If FMV cannot reasonably be estimated for a particular property then RMLD will estimate the value of such property based on its salvage value. Salvage value is the estimated residual value of an asset at the end of its useful life or the proceeds from the disposal of the asset when it can no longer be used in a productive manner. Net salvage value takes into account the costs of disposal to more accurately reflect the residual value of a depreciable asset.

The estimated value of the property, including the designation as scrap, and the sources consulted shall be documented and kept on file. The final determination of the property's estimated value shall be subject to review and approval by the General Manager or his/her designee.

IV. CATEGORIZATION OF SURPLUS PROPERTY

Once values are determined pursuant to Article III, property shall be categorized as follows:

- (1) Scrap – property which may or may not have a tangible resale or salvage value.
- (2) Substantial Value – property having a FMV of \$10,000 or greater;
- (3) Moderate Value – property having a FMV in excess of \$500 but less than \$10,000; and
- (4) Nominal Value – property having a FMV of \$500 or less.

V. ELECTRIC UTILITY-SPECIFIC AND ELECTRIC UTILITY RATED COMMERCIAL VEHICLE PROPERTY

RMLD will identify any property that it considers to be electric utility-specific. Electric utility-specific property is property that typically only an electric utility or a company or person in the electric utility trade is likely to have an interest in acquiring. For electric utility-specific and electric utility rated commercial vehicle property of Substantial Value, RMLD will determine whether an established market exists for purposes of disposal. An "established market" is one in which commodities are regularly sold in wholesale lots and prices are set by open competition as interpreted or as otherwise defined by the Massachusetts Inspector General or agency of the Commonwealth or a court having jurisdiction over the disposal of property by federal, state, and local governmental entities. A list of trade journals and other trade publications, online advertising sources and other industry or market resources for the advertisement and sale of electric utility-specific, including electric utility rated commercial vehicles, regardless of value shall be identified and documented. This list shall be reviewed and updated as necessary.

VI. DISPOSAL PROCEDURES

- A. Scrap having tangible or resale value. Scrap having tangible or resale value shall be placed in the appropriate category based on the value of the property. If the surplus property will be sold separately as individual units, the property shall be categorized based on the value of each individual unit. For property to be sold as a set or collection, the property shall be categorized based on the estimated value of the set or collection. Items customarily sold as a set shall not be treated as individual units to evade or bypass applicable disposal procedures. However, RMLD, in its discretion may determine whether to dispose of property on an individual unit basis or as part of a set or collection in order to maximize revenue. In such instances, the reasons shall be documented and kept on file. The final decision whether to utilize a single solicitation or separate solicitations for multiple items shall be subject to the review and approval of the General Manager or his/her designee.
- B. Scrap having no tangible resale or salvage value. Scrap having no tangible resale or salvage value may be destroyed, recycled, or disposed of via an approved scrap bid or other method as determined by RMLD in its discretion based on the particular circumstances and costs of disposal. RMLD will endeavor to minimize the cost of disposal of scrap to the extent reasonably possible.
- C. Right of First Refusal. RMLD will offer surplus property, with the exception of electric utility rated commercial vehicles, electric utility specific property, and scrap having no tangible resale or salvage value, to the Towns of Reading, North Reading, Wilmington, and Lynnfield (collectively "Towns") at FMV before offering the property to the general public.

Vehicles. With the exception of electric utility rated commercial vehicles and electric utility specific rolling stock, vehicles will be offered to the Towns at FMV on a rotational basis. The rotational sequence is Reading, North Reading, Wilmington, and Lynnfield. RMLD will notify the Towns in writing. The Towns will have 30 days from the date of RMLD's notice to submit a notice of intent to purchase the property before RMLD offers the property to the general public. Notice of intent to purchase shall be made in writing and signed by an officer with authority to approve the purchase. If more than one town provides RMLD with a notice of intent to purchase the property at the same time, preference will be given based on the rotational sequence. If no town has provided RMLD with a written notice of intent within the 30-day period, RMLD may proceed to offer the property to the general public pursuant to applicable procedures.

Other Property. RMLD will offer other surplus property to the Towns at FMV on a first come, first served basis. RMLD will notify the Towns in writing. The Towns will have 30 days from the date of RMLD's notice to submit a notice of intent to purchase the property before RMLD offers the property to the general

public. Notice of intent to purchase shall be made in writing and signed by an officer with authority to approve the purchase. If more than one town provides RMLD with a notice of intent to purchase the property at the same time, preference will be given based on the rotational sequence. If no town has provided RMLD with a written notice of intent within the 30-day period, RMLD may proceed to offer the property to the general public pursuant to applicable procedures.

- D. Substantial Value. Property determined to have Substantial Value only shall be disposed of in compliance with G.L. c. 30B requirements and such supplemental requirements and procedures set forth in this policy and/or as determined by the General Manager in his/her discretion. The General Manager shall have authority to impose additional requirements if he/she determines that it is in the best interests of RMLD to do so.

Where an established market exists for the property, RMLD may dispose of the property through the established market or by trade-in if RMLD determines that it is advantageous to do so. The reasons shall be documented and the decision shall be subject to the approval of the General Manager or his/her designee.

For all other property, a competitive solicitation process shall be used. RMLD shall evaluate whether a written competitive bid process or auction, including an online auction (*i.e.*, EBay or similar web-based listing), presents the most advantageous approach given the property to be sold. The process, including all notices, shall conform to G.L. c. 30B requirements.

RMLD shall consider whether to impose a minimum bid reserve price or other terms and conditions of the sale. At a minimum, RMLD shall reserve the right to reject any and all bids if it is in RMLD's best interest to do so.

In addition to complying with G.L. c. 30B notice requirements, RMLD shall post a notice on its website for 30 days and advertise the solicitation in appropriate print and online sources intended to reach potentially interested buyers. Electric utility rated commercial vehicles and electric utility-specific equipment shall be advertised in at least two sources identified on the list as set forth in Article V.

RMLD shall award the bid to the highest bidder who meets the requirements of the solicitation, unless RMLD determines that it is in its best interest to reject the bids. If RMLD rejects the bids, RMLD may solicit new bids or negotiate the sale at a higher price than the highest bid price as permitted by G.L. c. 30B.

All bidders, including participants in an auction, shall submit a non-collusion certificate as required by G.L. c. 30B.

The sources of advertising, the specific method of disposal, and the award

process, shall be documented and subject to the approval of the General Manager or his/her designee.

- E. Moderate Value. Property of Moderate Value shall be sold through the best available means in order to obtain the highest price for RMLD. In determining the specific disposal and advertising methods to be used, the costs of disposal shall be weighed against the expected yield to RMLD. Among other options, as determined by RMLD under the circumstances, disposals may be made through a competitive bid or auction process to the highest bidder as provided in Article VI.C or sold for FMV or "best offer" after advertisement. When offering to sell surplus property to the general public, to the extent practical, RMLD shall advertise the sale in the local newspaper, on its website for 30 days and in appropriate print and online sources intended to reach potentially interested buyers. Commercial and electric utility-specific vehicles and equipment should be advertised in at least two sources identified on the list as set forth in Article V. RMLD also may negotiate the sale of the property or dispose of the property through less formal means after receiving three quotations or as RMLD deems appropriate under the circumstances. If RMLD solicits quotations, RMLD shall not be required to sell the property to the person providing the highest quotation, but the highest quotation shall be used as the benchmark for negotiating and approving the sale.

The purchaser of property having Moderate Value shall be required to sign and submit a non-collusion certificate.

The reasons and sources for the method of disposal and the award process shall be documented and subject to the approval of the General Manager or his/her designee.

- F. Nominal Value. Property of Nominal Value may be disposed of using sound business practices. The process and sale shall be documented and kept on file.

VII. ADDITIONAL TERMS AND REQUIREMENTS

- A. All property shall be sold or disposed of "as is" without any warranties of any kind.
- B. The purchaser shall release RMLD, in writing, from all liabilities concerning the property. The Purchaser must provide for removal, transportation, storage, etc. at no cost to the RMLD.
- C. The purchaser shall have the responsibility to provide for the removal, storage and transportation of the property at its sole expense. The purchaser shall remove the property at a time and location designated by RMLD.

VIII. PROHIBITION ON SALES TO EMPLOYEES, BOARD OF COMMISSIONER MEMBERS AND BOTH OF THEIR IMMEDIATE FAMILIES

Consistent with G.L. c. 268A, § 20, RMLD employees and RMLD Board of Commissioner members and both of their immediate families shall not be eligible to purchase or otherwise receive RMLD surplus property regardless of price or method of disposal used. This prohibition also applies to competitive solicitation processes.

IX. ADMINISTRATIVE REVIEW AND REPORTING

All disposals other than scrap material having no tangible resale or salvage value shall require the administrative review of the General Manager. The General Manager may require any additional reviews and approvals as the General Manager deems necessary, in his or her discretion. The General Manager shall make reports monthly on the disposal of surplus having Substantial Value to the RMLD Board of Commissioners.

**RMLD Policy No. 9
PROCUREMENT**

Revision No.4

Commission Vote/Effective Date _____

General Manager/Date

Next Review Date

I. APPLICABILITY and PURPOSE

- A. This policy applies to the procurement of goods and services by the Reading Municipal Light Department ("RMLD"), except for power supplies and public construction materials and services subject to G.L. c. 30, § 39M or G.L. c. 149. This policy also does not apply to the hiring of labor relations representatives, lawyers, designers, certified public accountants or other professional services that are exempt under G.L. c. 30B. This policy applies to all RMLD employees and commissioners and Citizens Advisory Committee ("CAB") members.

- B. The purpose of this policy is to implement good business practices to ensure that RMLD's procurements are cost efficient, timely, meet the needs of RMLD, and comply with applicable laws.

II. AUTHORITY

The RMLD Board of Commissioners shall be given the opportunity to review and comment on all procurements proposed to be conducted under this Policy No. 9 having an estimated value in excess of \$25,000 for electric equipment procured hereunder and in accordance with G.L. c. 164, § 56D and \$35,000 for other equipment and services. However, if the General Manager determines that an emergency involving the health, safety or welfare of the people or their property exists, then the RMLD may proceed with an emergency procurement hereunder without first affording the Board of Commissioners the opportunity to review and comment on such procurement. The General Manager shall report the circumstances of all such emergencies and the details of all such emergency procurements to the Board of Commissioners as soon as reasonably practicable.

The General Manager, or her designee, shall approve all pricing and terms and conditions of all RMLD procurement contracts. RMLD may develop and use standard terms and conditions which have been preapproved by the General Manager.

III. VENDOR RELATIONS

A. Objective

It is recognized that vendors establish working relationships with RMLD employees and that these relationships are beneficial to both RMLD and the vendor. The RMLD must ensure that these relationships do not result in excessive costs to RMLD or in loss of a resource due to improper business practices.

B. Notice to Materials Manager

If an employee intends to meet with a vendor to discuss ongoing or future projects and the discussion may involve prices, terms or conditions, the employee shall notify the Materials Manager. The Materials Manager or designated representative will attend the meeting if necessary.

C. Code of Conduct

The RMLD has a zero tolerance policy. This means no RMLD employee, RMLD Board member or CAB member may accept gifts from vendors or prospective vendors, or as otherwise proscribed by G.L. c. 268A.

Massachusetts General Laws, Chapter 268A, is the primary law relating to conflict of interest for public employees. All employees need to be aware of the laws and regulations governing dealings with vendors and as they apply to conduct in other areas as well. It is the policy of the RMLD to maintain the highest level of integrity in dealings with vendors and the public on any level.

No RMLD employee, RMLD Board member or CAB member may solicit or accept, directly or indirectly, any gift, gratuity, favor, entertainment, loan, or other item in violation of G.L. c. 268A. RMLD also prohibits the solicitation or acceptance of any gift or gratuity regardless of monetary value from a person, public agency, or private entity that:

1. Has had, has, or is seeking to obtain a contractual or other business or financial relationship with the RMLD.
2. Conducts or is seeking to conduct business or activities that are regulated or monitored by the RMLD; or
3. Has interests that are or may give the reasonable impression of being substantially affected by the performance or nonperformance of an individual's official duties.

IV. VENDOR LISTS

RMLD will prepare and maintain lists of responsible vendors to facilitate the procurement process. A responsible vendor is one who has the demonstrated ability, capacity, and integrity to provide the desired goods or services as determined by RMLD based on prior dealings with RMLD, references and/or other information obtained by RMLD.

A. Obtaining Responsible Vendor Status

1. Prior to adding a vendor to the RMLD vendor list, RMLD will obtain complete vendor company and contact information. Information may include business and client references as well as qualifications, licenses, and bonds, as applicable.
2. RMLD also will check the Commonwealth's debarred vendor lists to ensure that the vendor is in good standing.
3. Depending on the bid amount, a vendor may also be asked to submit the following certifications or affirmations:
 - a. A statement that no RMLD employee, RMLD Board member, or CAB member, is a participant in, owner of, or receives a benefit from business dealings with the RMLD.
 - b. A statement that the vendor will not furnish or provide any RMLD Board member, CAB Member, or employee directly or indirectly, any gift, gratuity, favor, entertainment, loan, or other item of monetary value.
 - c. Certifications regarding tax compliance, the Fair Labor Standards Act ("FLSA") and/or wage rates.
 - d. Certification of Non-Collusion in submission of quotations and bids.
 - e. Acknowledgement of understanding of the laws of the Commonwealth and RMLD Policies as they apply to the conduct of business with the RMLD and affirmation to comply with those laws and RMLD Policies.

B. Preparation and Review

The Materials Manager shall be responsible for preparing and maintaining the vendor lists. The vendor list shall be subject to the General Manager's review and approval.

V. PROCUREMENT PROCESS

A. Electric Equipment

RMLD shall use sound business practices to procure transmission and distribution equipment. The particular process utilized will depend on the required specifications for the equipment, availability of responsible vendors for specialized equipment, when such equipment is needed and lead time for delivery, among other factors. When the estimated cost of the purchase is \$25,000 or more, the purchase shall first be advertised in accordance with G.L. c. 164, § 56D unless an emergency involving the health, safety or welfare of the people or their property is deemed to exist in which case no advertisement shall be required. Such advertisement shall state the time and place for opening the proposals and shall reserve to RMLD the right to reject any or all such proposals. All such proposals shall be opened in public. No bill or contract shall be split or divided for the purpose of evading the advertising requirements set forth in G.L. c. 164, § 56D. In addition, RMLD may provide direct notice of the procurement to applicable vendors on RMLD's vendor list.

B. Other Equipment and Services

To the extent practicable, RMLD will follow the procedures set forth G.L. c. 30B. This policy shall not be construed as an acceptance of G.L. c. 30B, as set forth in G.L. c. 30B, § 1(b)(14). The following Guidelines shall be used when prices are being solicited from a vendor:

1. Purchases under \$10,000.00 will be made using sound business practices.
2. Purchases between \$10,000.00 and \$34,999.00 shall be made from a statewide contract or after the solicitation of three (3) quotations, if reasonably available, which may be oral or written. If oral quotations are solicited, the following information shall be recorded and retained by RMLD: the names and addresses of all persons from whom quotations were sought, the names of the persons submitting quotations and the date and amount of each quotation. The contract will be awarded to the responsible vendor who can provide the goods or services in a timely manner at the lowest cost.
3. Purchases estimated to exceed \$35,000.00 shall be made from a statewide contract or after a formal, competitive sealed bid or proposal procedure or a reverse auction. If a competitive solicitation or reverse auction is used, RMLD will follow the applicable procedures set forth in G.L. c. 30B, §§ 5, 6, or 6A, and the advertising requirements set forth in G.L. c.

164, § 56D. The competitive solicitation procedures may be waived by the General Manager when an emergency involving the health, safety or welfare of the people or their property is deemed to exist.

4. Vendors should be made aware that any purchase orders or contracts are subject to RMLD standard Terms and Conditions, and/or the Terms and Conditions set forth in the RMLD Goods and Services contract and are in effect unless otherwise agreed to by the General Manager.

VI. Records

Records of all solicitations shall be kept and must be furnished to the Materials Manager. Such information may be used for subsequent contracts or purchase orders. All contract information on all purchases of \$5,000.00 and over as required by G.L 164 § 56C will be maintained by the Materials Manager as per agreement with the Reading Town Manager and Town Accountant.



230 Ash Street
P.O. Box 150
Reading, MA 01867-0250

Tel: (781) 944-1340
Fax: (781) 942-2409
Web: www.rml.com

May 5, 2015

Town of Reading Municipal Light Board

Subject: Digger Derrick

On March 16, 2015 a bid invitation was placed in the Goods and Services Bulletin and on March 18, 2015 a bid invitation was placed as a legal notice in the Reading Chronicle, Middlesex East, requesting proposals for one Digger Derrick for the Reading Municipal Light Department.

An invitation to bid was sent to the following nineteen companies:


- | | | |
|-----------------------------------|---|---------------------------|
| Altec Industries, Inc. | Baker Equipment | Boston Freightliner, Inc. |
| Coastal International Truck, LLC | CUES | DC Bates |
| Fredrickson Bros., Inc. | G & S Industrial, Inc. | James A. Kiley Co. |
| Liberty Chevrolet | Mid-State International Trucks, Inc. | Minuteman Trucks |
| Moore GMC Truck Inc. | Morse Manufacturing Inc. | NESCO |
| Nutmeg International Trucks, Inc. | Patriot International Trucks of Boston, LLC | Raymond Bucket Guys |
| Sunrise Equipment Company | Taylor & Lloyd, Inc. | |

Bids were received from four companies: Altec Industries, Inc., Boston Freightliner, Inc., James A. Kiley Co., and Taylor & Lloyd, Inc.

The bids were publicly opened and read aloud at 11:00 a.m. on April 16, 2015, in the Town of Reading Municipal Light Department's Audio Visual Spurr Room, 230 Ash Street, Reading, Massachusetts.

The bids were reviewed, analyzed and evaluated by staff and recommended to the General Manager. Move that bid 2015-24 for one Digger Derrick be awarded to: James A. Kiley Co. for \$253,550.00 as the lowest, qualified and responsive bidder on the recommendation of the General Manager.

The FY2015 Capital Budget amount for this item is \$231,750.00.



Coleen O'Brien



Hamid Jaffari



Paula O'Leary

Digger Derrick

Bid 2015-24

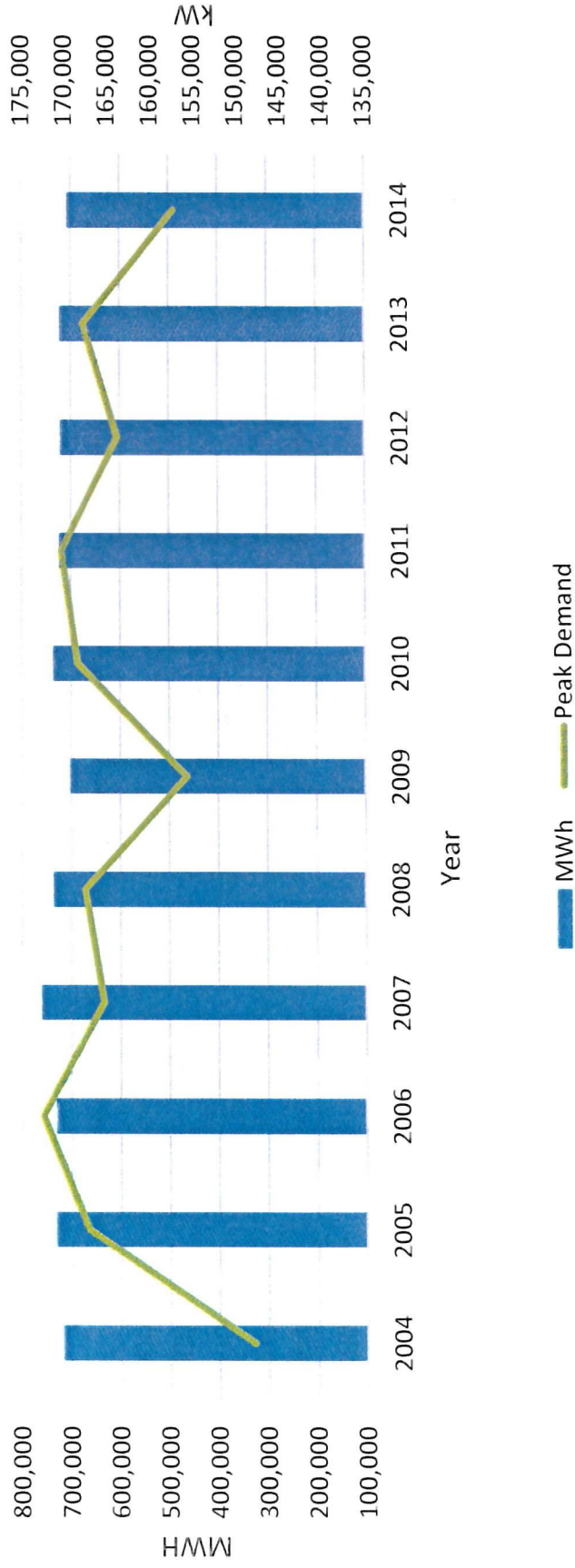
<u>Bidder</u>	<u>Vehicle Purchase Price</u>	<u>Trade In Value</u>	<u>Vehicle Cost Before Trade</u>	<u>**Optional Extended Warranties</u>	<u>Delivery Date ARO</u>	<u>Responsive Bidder</u>	<u>Exceptions</u>
Altec Industries, Inc.	\$217,096.00	\$5,000.00	\$222,096.00	\$3,150.00	34-37 weeks	No	Yes ¹
Boston Freightliner	\$254,500.00	\$7,900.00	\$262,400.00	\$2,400.00	34 weeks	Yes	No
James A. Kiley Co.	\$253,550.00	\$4,500.00	\$258,050.00	\$3,210.00	32-40 weeks	Yes	No
Taylor & Lloyd, Inc.	\$253,686.00	\$4,500.00	\$258,186.00	\$0.00	30-40 weeks	Yes	Yes ²

****RMLD required at a minimum the offering of an extended warranty to cover: 5 years - 100,000 Miles - 10,000 Hours on: Engine, Transmission, Rear Axle and Differential and Front Axle**

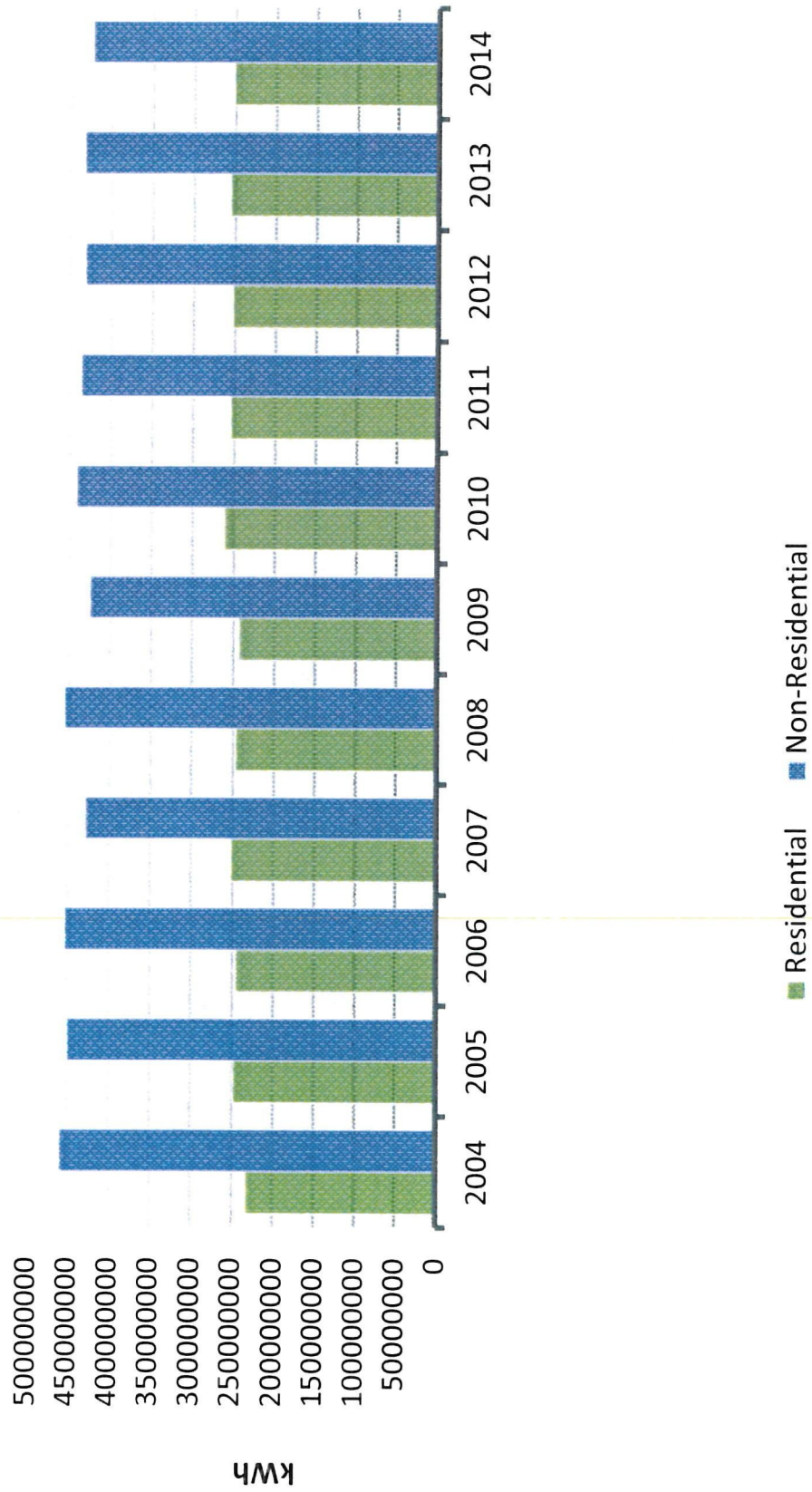
¹ Bidder submitted 9 (nine) exceptions to bid, major exceptions were weight ratings at all degree intervals.

² Bidder submitted 1 (one) minor exception to bid (engine block heater wattage). Bidder did not submit pricing for Optional Extended Warranty.

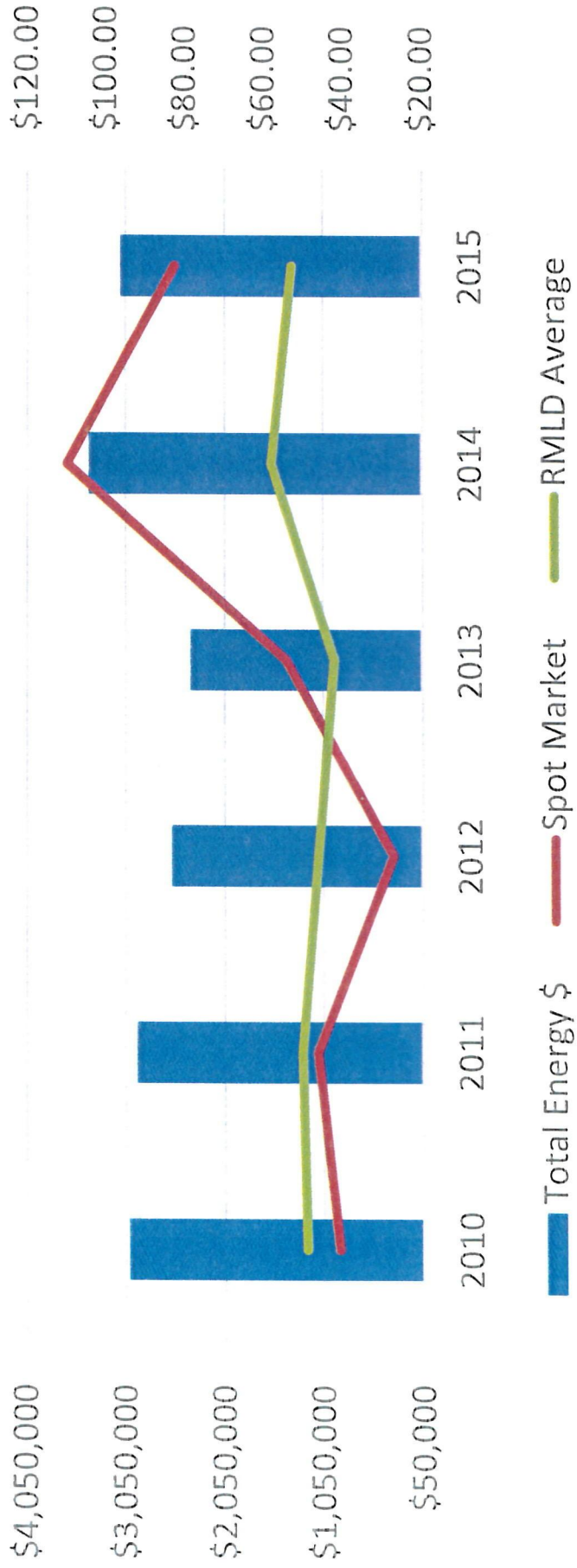
Annual Purchases vs. Peak Demand 2004 - 2014





Residential vs. Non Residential kWh Sales 2004 - 2014



Purchases, Spot Market and RMLD Average Cost March 2010 - 2015



To: Coleen O'Brien

From:  Maureen McHugh, Jane Parenteau 

Date: May 4, 2015

Subject: Purchase Power Summary – March, 2015

Energy Services Division (ESD) has completed the Purchase Power Summary for the month of March, 2015.

ENERGY

The RMLD's total metered load for the month was 58,913,664 kWh, which is a .18% decrease from the March, 2014 figures.

Table 1 is a breakdown by source of the energy purchases.

Table 1

Resource	Amount of Energy (kWh)	Cost of Energy (\$/Mwh)	% of Total Energy	Total \$ Costs	\$ as a %
Millstone #3	3,713,826	\$6.73	6.30%	\$24,997	0.81%
Seabrook	5,885,917	\$6.69	9.99%	\$39,354	1.27%
Stonybrook Intermediate	41,625	\$420.90	0.07%	\$17,520	0.56%
Shell Energy	7,148,480	\$69.05	12.13%	\$493,614	15.91%
NextEra	7,402,000	\$55.84	12.56%	\$413,344	13.33%
NYPA	2,477,148	\$4.92	4.20%	\$12,188	0.39%
ISO Interchange	13,600,017	\$82.50	23.08%	\$1,122,066	36.17%
NEMA Congestion	0	\$0.00	0.00%	-\$87,813	-2.83%
Coop Resales	11,370	\$161.69	0.02%	\$1,838	0.06%
BP Energy	7,881,830	\$47.73	13.38%	\$376,200	12.13%
Summit Hydro/Collins/Pioneer	2,824,890	\$71.75	4.79%	\$202,679	6.53%
Braintree Watson Unit	214,549	\$434.20	0.36%	\$93,156	3.00%
Swift River Projects	1,182,078	\$99.75	2.01%	\$117,911	3.80%
Exelon	6,541,480	\$42.02	11.10%	\$274,851	8.86%
Stonybrook Peaking	0	\$0.00	0.00%	\$0	0.00%
Monthly Total	58,925,210	\$52.64	100.00%	\$3,101,904	100.00%

Table 2 breaks down the ISO interchange between the DA LMP Settlement and the RT Net Energy for the month of March, 2015.

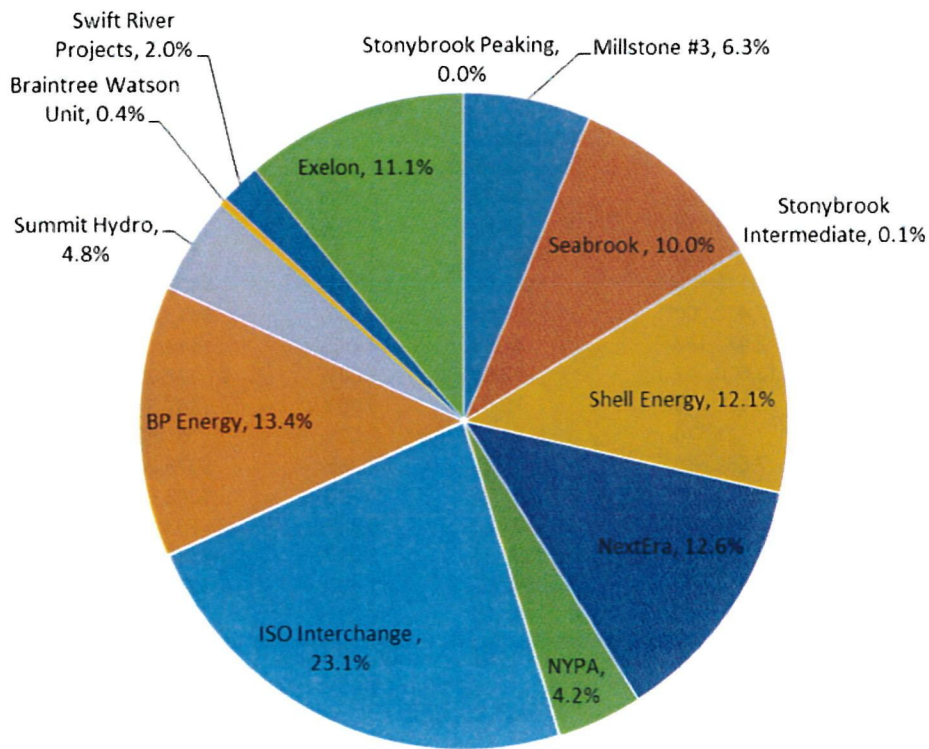
Table 2

Resource	Amount of Energy (kWh)	Cost of Energy (\$/Mwh)	% of Total Energy
ISO DA LMP * Settlement	15,551,817	77.75	26.39%
RT Net Energy ** Settlement	-1,951,799	44.66	-3.31%
ISO Interchange (subtotal)	13,600,017	82.50	23.08%

* Independent System Operator Day-Ahead Locational Marginal Price

** Real Time Net Energy

MARCH 2015 ENERGY BY RESOURCE



CAPACITY

The RMLD hit a demand of 102,366 kW, which occurred on March 3, at 7 pm. The RMLD's monthly UCAP requirement for March, 2015 was 209,812 kW.

Table 3 shows the sources of capacity that the RMLD utilized to meet its requirements.

Table 3

Source	Amount (kW)	Cost (\$/kW-month)	Total Cost \$	% of Total Cost
Millstone #3	4,950	34.47	\$170,635	11.66%
Seabrook	7,919	39.88	\$315,837	21.58%
Stonybrook Peaking	24,981	2.03	\$50,801	3.47%
Stonybrook CC	42,925	7.77	\$333,554	22.80%
NYPA	4,019	4.19	\$16,834	1.15%
Hydro Quebec	0	0	\$21,036	1.44%
Nextera	60,000	5.65	\$339,000	23.17%
Braintree Watson Unit	10,520	10.79	\$113,545	7.76%
ISO-NE Supply Auction	54,497	1.87	\$102,020	6.97%
Total	209,811	\$6.97	\$1,463,262	100.00%

Table 4 shows the dollar amounts for energy and capacity per source.

Table 4

Resource	Energy	Capacity	Total cost	% of Total Cost	Amt of Energy (kWh)	Cost of Power (\$/kWh)
Millstone #3	\$24,997	\$170,635	\$195,632	4.29%	3,713,826	0.0527
Seabrook	\$39,354	\$315,837	\$355,191	7.78%	5,885,917	0.0603
Stonybrook Intermediate	\$17,520	\$333,554	\$351,074	7.69%	41,625	8.4342
Hydro Quebec	\$0	\$21,036	\$21,036	0.46%	-	0.0000
Shell Energy	\$493,614	\$0	\$493,614	10.81%	7,148,480	0.0691
NextEra	\$413,344	\$339,000	\$752,344	16.48%	7,402,000	0.1016
* NYPA	\$12,188	\$16,834	\$29,021	0.64%	2,477,148	0.0117
ISO Interchange	\$1,122,066	\$102,020	\$1,224,086	26.81%	13,600,017	0.0900
Nema Congestion	-\$87,813	\$0	-\$87,813	-1.92%	-	0.0000
BP Energy	\$376,200	\$0	\$376,200	8.24%	7,881,830	0.0477
* Summit Hydro/Collins/Pioneer	\$202,679	\$0	\$202,679	4.44%	2,824,890	0.0717
Braintree Watson Unit	\$93,156	\$113,545	\$206,701	4.53%	214,549	0.9634
* Swift River Projects	\$117,911	\$0	\$117,911	2.58%	1,182,078	0.0997
Coop Resales	\$1,838	\$0	\$1,838	0.04%	11,370	0.1617
Exelon Energy	\$274,851	\$0	\$274,851	6.02%	6,541,480	0.0420
Stonybrook Peaking	\$0	\$50,801	\$50,801	1.11%	-	0.0000
Monthly Total	\$3,101,904	\$1,463,262	\$4,565,166	100.00%	58,925,210	0.0775
* Renewable Resources					11.00%	

RENEWABLE ENERGY CERTIFICATES (RECs)

Table 5 shows the amount of banked and projected RECs for the Swift River Hydro Projects through March 2015, as well as their estimated market value.

Table 5
Swift River RECs Summary
Period - July 2014 - March 2015

	Banked RECs	Projected RECs	Total RECs	Est. Dollars
Woronoco	1,129	838	1,967	\$94,416
Pepperell	2,798	1,940	4,738	\$227,424
Indian River	1,619	817	2,436	\$116,928
Turners Falls	<u>1,859</u>	<u>133</u>	<u>1,992</u>	<u>\$0</u>
Sub total	7,405	3,728	11,133	\$438,768
RECs Sold			0	\$0
Grand Total	7,405	3,728	11,133	\$438,768

TRANSMISSION

The RMLD's total transmission costs for the month of March, 2015 were \$987,624. This is an increase of 4.29% from the February transmission cost of \$947,036. In March, 2014 the transmission costs were \$892,962.

Table 6

	Current Month	Last Month	Last Year
Peak Demand (kW)	102,366	108,841	104,839
Energy (kWh)	58,925,210	57,903,974	59,029,265
Energy (\$)	\$3,101,904	\$3,579,980	\$3,420,919
Capacity (\$)	\$1,463,262	\$1,491,533	\$1,426,844
Transmission(\$)	\$987,624	\$947,036	\$892,962
Total	\$5,552,790	\$6,018,549	\$5,740,725

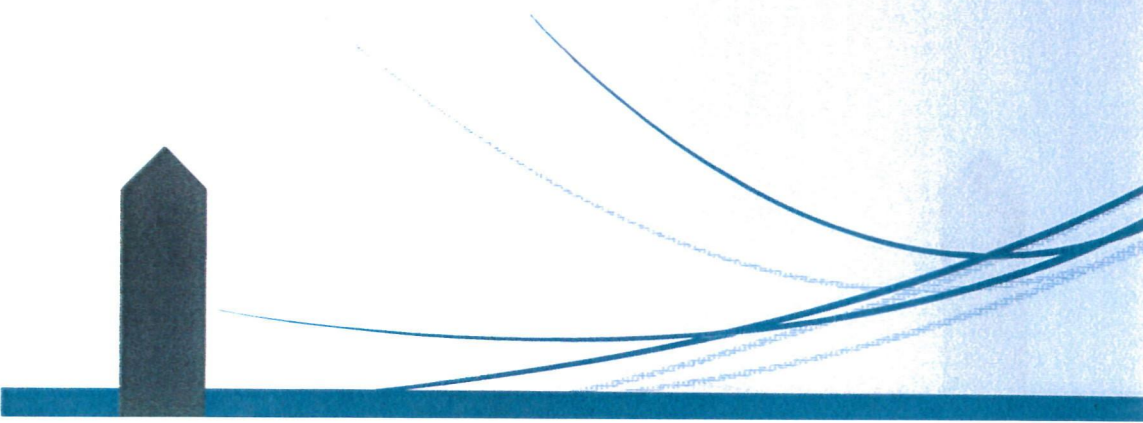
ENERGY EFFICIENCY

Table 7 shows the comprehensive results from the Energy Conservation program. The amount of savings is broken down by both demand and energy for the Commercial and Residential sectors.

Table 7		Total \$		Total \$		Total \$		Total \$			
Commercial	Year	Capacity Saved (kW)	Energy Saved (kwh)	Capacity	\$/kW	Energy	\$/kWh	Rebate	Rebate/kWh	Rebate/kW	Cost Benefit
Total to date	FY07-14	16,169	63,959,276	\$ 1,561,065		3,543,375		\$ 1,732,385	\$ 0.03	\$ 107.14	\$ 3,372,054
Current	FY15	309	1,006,251	\$ 42,473	\$11.45	60,375	\$ 0.06	\$ 214,024	\$ 0.21	\$ 692.36	\$ (111,176)
Residential											
Total to date	FY07-14	2,609	2,252,774	\$ 257,422		117,229		\$ 718,531	\$ 0.32	\$ 275.42	\$ (343,881)
Current	FY15	217	122,826	\$ 29,827	\$11.45	7,370	\$ 0.06	\$ 102,520	\$ 0.83	\$ 472.26	\$ (65,323)
Total											
Total to date	FY07-14	18,778	66,212,049	\$ 1,818,487		3,660,603		\$ 2,475,916	\$ 0.04	\$ 131.85	\$ 3,003,174
Current	FY15	526	1,129,077	\$ 72,300	\$11.45	67,745	\$ 0.06	\$ 316,544	\$ 0.28	\$ 601.56	\$ (176,499)

Table 8 shows the breakdown for residential appliance rebates by type and year.

Table 8		Washing Machine		Refrigerator		Dishwasher		Dehumidifier		Central A/C		Window A/C		Thermostat		Audits		Renewable		Air Source Heat Pump		HP Water Heater		Fan		
Year	QTY	Dollars	QTY	Dollars	QTY	Dollars	QTY	Dollars	QTY	Dollars	QTY	Dollars	QTY	Dollars	QTY	Dollars	QTY	Dollars	QTY	Dollars	QTY	Dollars	QTY	Dollars	QTY	Dollars
2007																										
2008	86	\$ 4,300	47	\$ 2,350	55	\$ 2,750	7	\$ 175	17	\$ 1,700	10	\$ 250	23	\$ 230	107	\$ 14,940										
2009	406	\$ 20,300	259	\$ 12,950	235	\$ 11,750	40	\$ 1,000	41	\$ 4,100	50	\$ 1,250	114	\$ 1,140	107	\$ 14,940										
2010	519	\$ 25,950	371	\$ 18,550	382	\$ 19,100	37	\$ 925	64	\$ 6,400	49	\$ 1,225	127	\$ 1,270	64	\$ 8,960	6	\$ 20,700								
2011	425	\$ 21,250	383	\$ 19,150	313	\$ 15,650	47	\$ 1,175	57	\$ 5,700	65	\$ 1,625	118	\$ 1,180	180	\$ 26,960	4	\$ 18,000								
2012	339	\$ 16,950	354	\$ 17,700	289	\$ 14,450	38	\$ 950	44	\$ 4,400	56	\$ 1,400	105	\$ 1,050	219	\$ 32,731	3	\$ 14,000					9	\$ 2,250	3	\$ 30
2013	285	\$ 14,250	336	\$ 16,800	311	\$ 15,550	29	\$ 725	24	\$ 2,400	54	\$ 1,350	57	\$ 570	375	\$ 75,000	3	\$ 15,000					19	\$ 1,900	4	\$ 1,000
2014	322	\$ 16,100	333	\$ 16,650	298	\$ 14,900	27	\$ 675	38	\$ 3,800	76	\$ 1,900	83	\$ 1,245	363	\$ 72,600	4	\$ 17,250					11	\$ 2,750	7	\$ 70
2015	189	\$ 9,450	196	\$ 9,800	201	\$ 10,050	19	\$ 475	24	\$ 2,400	28	\$ 700	35	\$ 525	231	\$ 46,200	7	\$ 19,000					8	\$ 2,000	2	\$ 20
Total	2571	\$ 128,550	2279	\$ 113,950	2084	\$ 104,200	244	\$ 6,100	309	\$ 30,900	388	\$ 9,700	662	\$ 7,210	1646	\$ 292,331	27	\$ 103,950	58	\$ 5,800	32	\$ 8,000	17	\$ 170		



Engineering & Operations Report

May 14, 2015

For March 2015 Reporting Period

Hamid Jaffari, Director of Engineering & Operations

Capital Improvement Projects

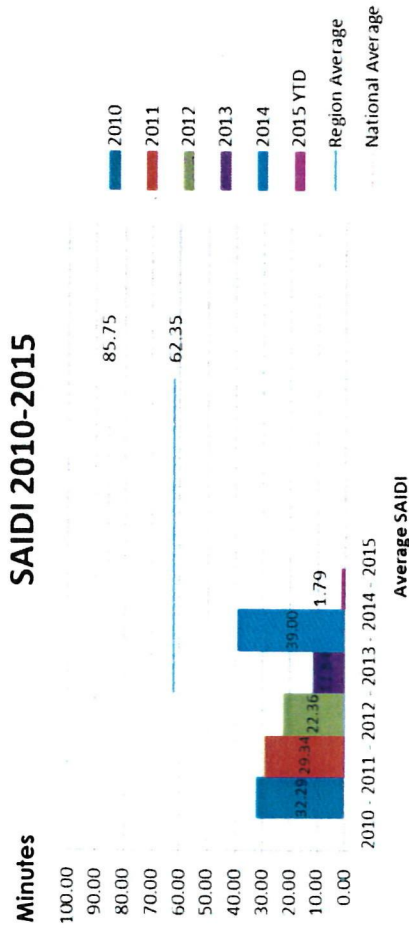
- ▶ Pole Line Upgrade – Lowell Street Wilmington
- ▶ Step-down Area Upgrades – All Towns
- ▶ Service Installations – Commercial/Industrial
- ▶ Service Installations – Residential
- ▶ Substation Test Equipment
- ▶ ARC Flash Study
- ▶ SCADA System Upgrades
- ▶ Station 5 RTU Replacement
- ▶ Routine Construction

Routine Maintenance

- ▶ Transformer Replacement
- ▶ Pole Inspection
- ▶ Visual Inspection of OH Lines
- ▶ Manhole Inspection
- ▶ Porcelain Cutout Replacement
- ▶ Substation Maintenance
 - ▶ Infrared Scanning
- ▶ Tree Trimming

Reliability exceeds regional and local indices . . .

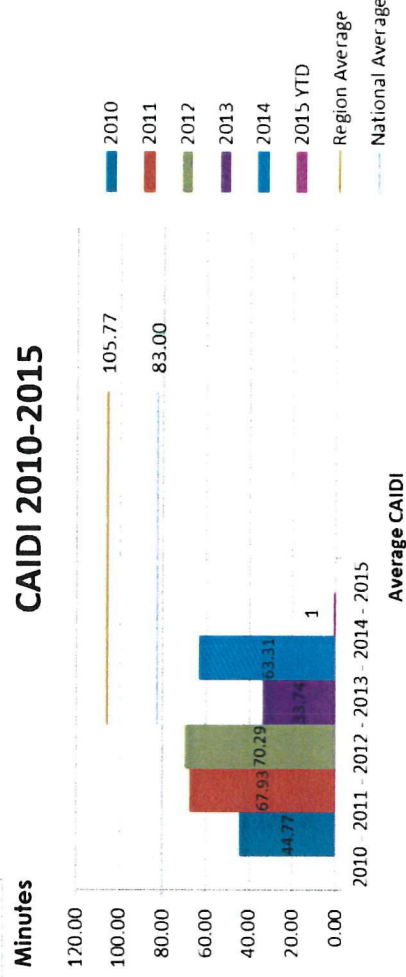
SAIDI 2010-2015



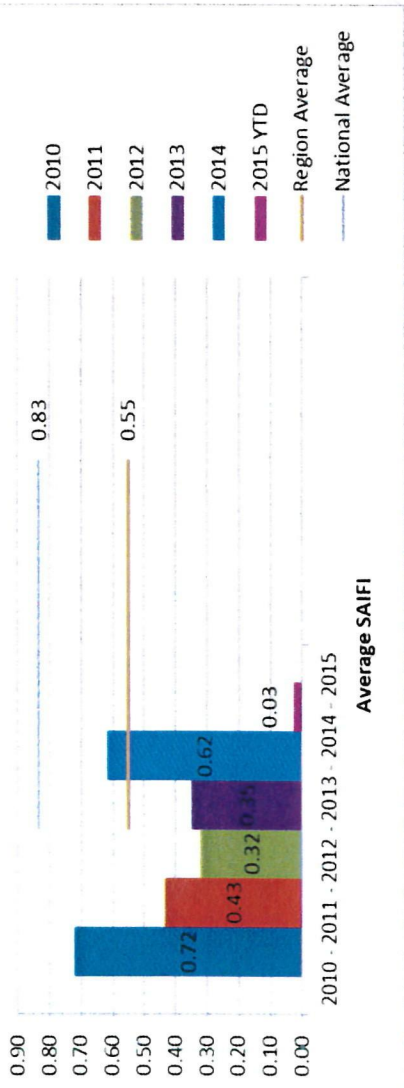
$$SAIDI \text{ (Minutes)} = \frac{\text{Total Duration of Customer Interruptions}}{\text{Total Number of Customers Served}}$$

$$CAIDI \text{ (Minutes)} = \frac{\text{Total Duration of Customer Interruptions}}{\text{Total Number of Customers Interruptions}}$$

CAIDI 2010-2015

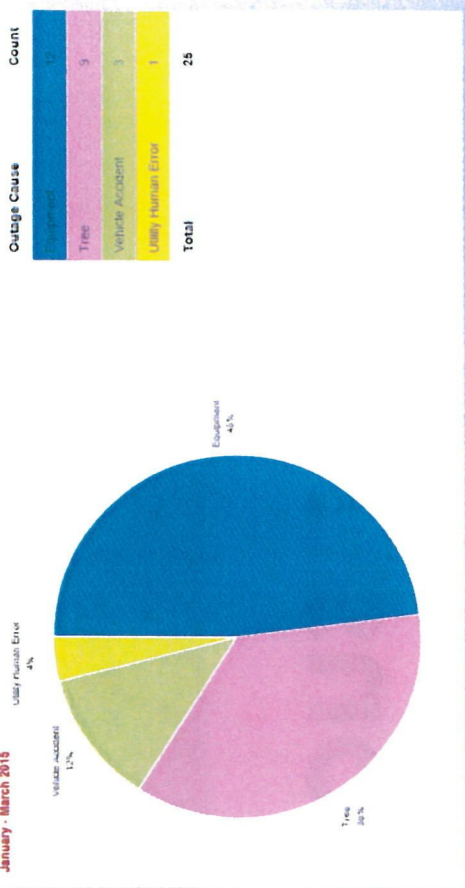


SAIFI 2010-2015



$$SAIFI = \frac{\text{Total Number of Customer Interruptions}}{\text{Total Number of Customers Served}}$$

January - March 2016



Questions ?



**READING MUNICIPAL LIGHT DEPARTMENT
FY 15 CAPITAL BUDGET VARIANCE REPORT
FOR PERIOD ENDING MARCH 31, 2015**

PROJ	DESCRIPTION	TOWN	ACTUAL COST MAR	YTD ADDITIONS	ANNUAL BUDGET	REMAINING BALANCE
<u>CONSTRUCTION:</u>						
101	5W9 Reconductoring - Ballardvale Area	W		11,586	253,000	241,414
102	Pole Line Upgrade Lowell Street	W	17,929	79,371	173,000	93,630
104	Upgrade Old Lynnfield Center URDs (Cook's Farm)	LC		56,087	217,000	160,913
105	4W5 - 4W6 Tie	R			70,000	70,000
106	URD Upgrades	ALL		51,425	319,000	267,575
107	Step-down Area Upgrades	ALL	21,286	60,872	203,000	142,128
212	Force Account West Street	R			224,000	224,000
	SUB-TOTAL		39,215	259,341	1,459,000	1,199,660
<u>STATION UPGRADES:</u>						
108	Relay Replacement Project - Gaw Station #4	R			50,000	50,000
* 110	Station 3 - Replacement of Service Cutouts	NR		2,192		
130	Remote Terminal Unit (RTU) Replacement - Station 3	NR			85,000	85,000
810	Station 5 RTU Replacement	W	2,884	2,884	-	(2,884)
	SUB-TOTAL		2,884	5,076	135,000	132,116
<u>NEW CUSTOMER SERVICES:</u>						
112	New Service Installations (Commercial / Industrial)	ALL		12,465	57,000	44,535
113	New Service Installations (Residential)	ALL	4,280	97,760	260,000	162,240
	SUB-TOTAL		4,280	110,225	317,000	206,775
<u>ROUTINE CONSTRUCTION:</u>						
114	Routine Construction	ALL	147,322	1,381,518	947,000	(434,518)
<u>SPECIAL PROJECTS / CAPITAL PURCHASES:</u>						
103	Distribution Protection and Automation	ALL			69,000	69,000
116	Transformers and Capacitors	ALL		144,980	444,000	299,020
117	Meter Purchases (including "500 Club")	ALL		55,171	127,000	71,829
122	Engineering Analysis Software and Data Conversion	ALL			55,000	55,000
125	GIS	ALL	-	-	150,000	150,000
126	Communication Equipment (Fiber Optic)	ALL		4,700	30,000	25,300
* 131	LED Street Light Pilot Program	ALL		26,250	37,000	10,751
132	Outage Management Software and Integration	ALL			85,000	85,000
133	Predictive Asset Management Program	ALL			80,000	80,000
134	Substation Test Equipment	ALL	82,025	82,025	121,000	38,975
135	Arc Flash Study	ALL	2,092	2,092	35,000	32,908
137	SCADA System Upgrade - Hardware	ALL	15,949	36,281	63,000	26,719
	SUB-TOTAL		100,066	351,499	1,296,000	944,502
<u>OTHER CAPITAL PROJECTS:</u>						
118	Rolling Stock Replacement	ALL			434,000	434,000
119	Security Upgrades All Sites	ALL	5,012	22,265	61,000	38,735
120	Great Plains / Cogsdale Upgrade	ALL	7,093	46,443	350,000	303,557
121	HVAC System Upgrade - 230 Ash Street	R		10,900	399,000	388,100
123	Oil Containment Facility Construction	LC		11,168	80,000	68,832
127	Hardware Upgrades	ALL	6,805	35,192	102,000	66,808
128	Software and Licensing	ALL	39,971	68,287	122,000	53,713
129	Master Facilities Site Plan	R			50,000	50,000
136	Organizational / Reliability Studies	ALL	64,436	64,436	100,000	35,564
	SUB-TOTAL		123,317	258,691	1,698,000	1,439,309
TOTAL CAPITAL BUDGET			\$ 417,084	\$ 2,366,349	\$ 5,852,000	\$ 3,487,843

* completed project

READING MUNICIPAL LIGHT DEPARTMENT

**Engineering and Operations
Monthly Report**

March 2015

CAPITAL IMPROVEMENTS

Construction Projects:		% Complete FY14-15 Status	Month	YTD
102	Pole Line Upgrade- Lowell Street, Wilmington • Construction has begun (as of 1/14/15).	35%	\$17,929	\$79,371
107	Step-down Area Upgrades – All Towns • Vine Street Area, Reading	On-going	\$21,286	\$60,872
New Customer Service Connections:				
112	Service Installations – Commercial/Industrial:	On-going		\$12,465
113	Service Installations – Residential: This item includes new or upgraded overhead and underground services.	On-going	\$4,280	\$97,760
Special Projects/Capital Purchases:				
134	Substation Test Equipment	100%	\$82,025	\$82,025
135	ARC Flash Study	100%	\$2,092	\$2,092
137	SCADA System Upgrades	100%	\$15,949	\$36,281
810	Station 5 RTU Replacement	100%	\$2,884	\$2,884

ROUTINE CONSTRUCTION:	MAR	YTD
Pole Setting/Transfers	56,133	317,599
Overhead/Underground	29,935	385,899
Projects Assigned as Required • Fiber Framing	16,406	236,599
Pole Damage/Knockdowns • Work was done to repair or replace three (3) poles	4,383	37,989
Station Group		97,532
Hazmat/Oil Spills		3,831
Porcelain Cutout Replacement Program	16,549	24,519
Lighting (Street Light Connections)	2,629	20,414
Storm Trouble	0	34,702
Underground Subdivisions (new construction)	0	47,434
Animal Guard Installation	0	5,812
Miscellaneous Capital Costs	21,287	169,189
TOTAL:	<u>\$ 147,322</u>	<u>\$ 1,381,518</u>

MAINTENANCE PROGRAMS

Aged/Overloaded Transformer Replacement through March 31, 2015

Padmount:

Single-Phase: 11.69% replaced (of those over 20 years old)

Three-Phase: 6.41% replaced (of those over 20 years old)

Overhead:

Single-Phase: 9.23% replaced (of those over 20 years old)

Three-Phase: 3.33% replaced (of those over 20 years old)

Pole Testing System-wide (600-1,000 poles/year) (as of 5/6/15)

Year-one inspection complete: 645 poles tested (~10%)

- 390 silver tag (PASSED)
- 233 red tag (FAILED): *76 have been replaced*
- 22 double red tag (CONDEMNED): *22 have been replaced*

29 of 98 transfers have been completed

13.8kV/35kV Feeders – Quarterly Inspections

5W8, 5W9, 5W4, 5W5, 4W7, 4W23, 3W8, 3W18, 3W6, 3W13, 3W5, 3W15, 4W5, 4W6, 4W13, 4W10, 4W12, 4W16

Miscellaneous branches and vines were found and removed.

Manhole Inspections

Pending.

Porcelain Cutout Replacements (with Polymer)

As of March 31, 2015, there are 284 remaining porcelain cutouts to be replaced. 90% complete.

Substations:

Infrared Scanning (Monthly)

Station 3 Scanning complete through March – no hot spots found

Station 4 Scanning complete through March – no hot spots found

Station 5 Scanning complete through March – no hot spots found

Substation Maintenance Program

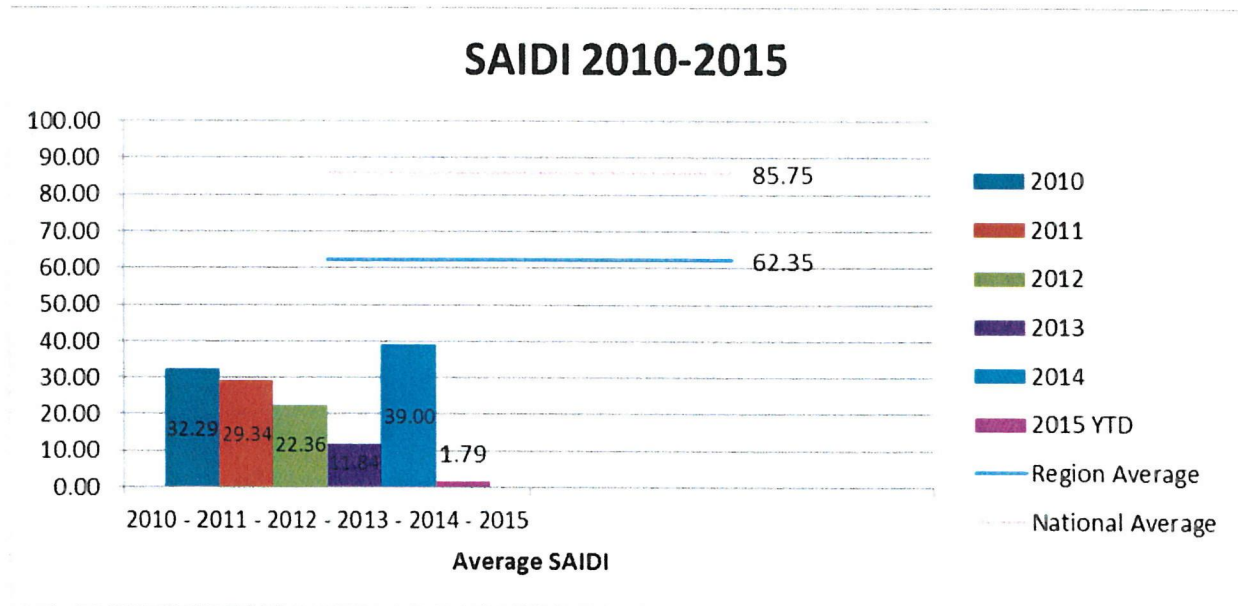
- *Inspection of all three stations by UPG in progress. 100% complete*
-

SYSTEM RELIABILITY

Key industry standard metrics have been identified to enable the RMLD to measure and track system reliability.

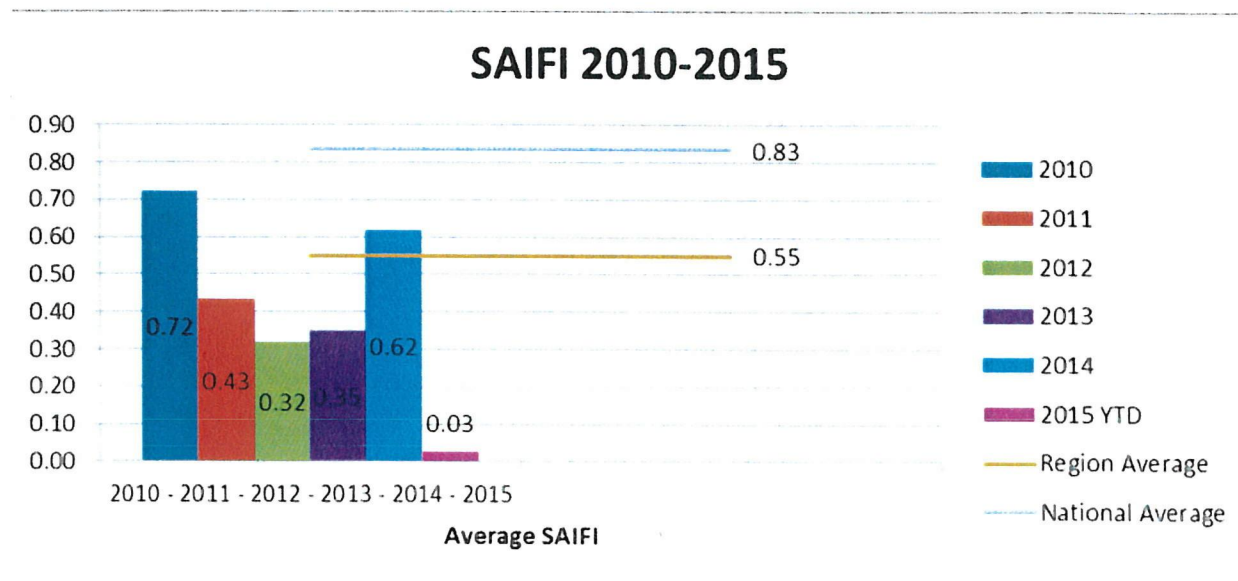
SAIDI (System Average Interruption Duration Index) is defined as the average interruption duration (in minutes) for customers served by the utility system during a specific time period.

SAIDI = the sum of all customer interruption durations within the specified time frame ÷ by the average number of customers served during that period.



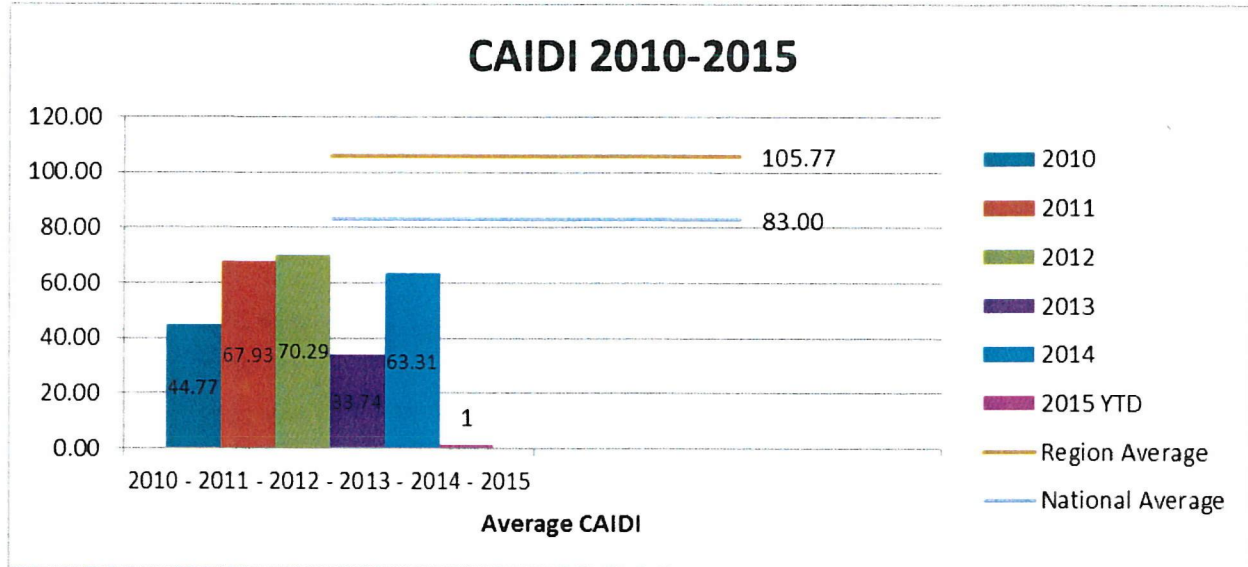
SAIFI (System Average Interruption Frequency) is defined as the average number of instances a customer on the utility system will experience an interruption during a specific time period.

SAIFI = the total number of customer interruptions ÷ average number of customers served during that period.



CAIDI (Customer Average Interruption Duration Index) is defined as the average duration (in minutes) of an interruption experienced by customers during a specific time frame.

CAIDI = the sum of all customer interruption durations during that time period ÷ the number of customers that experienced one or more interruptions during that time period.

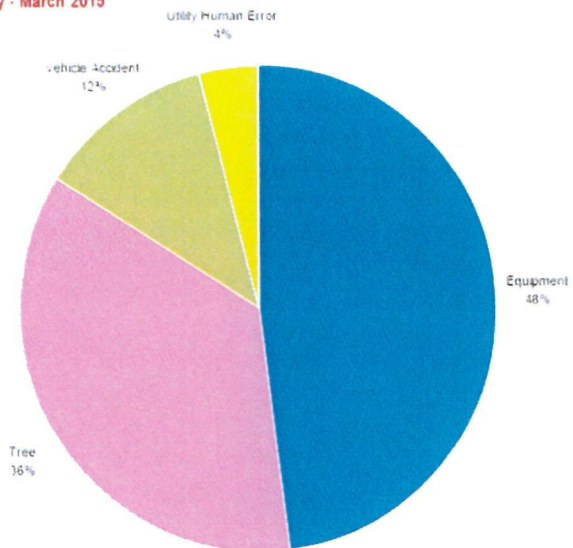


This metric reflects the average customer experience (minutes of duration) during an outage.

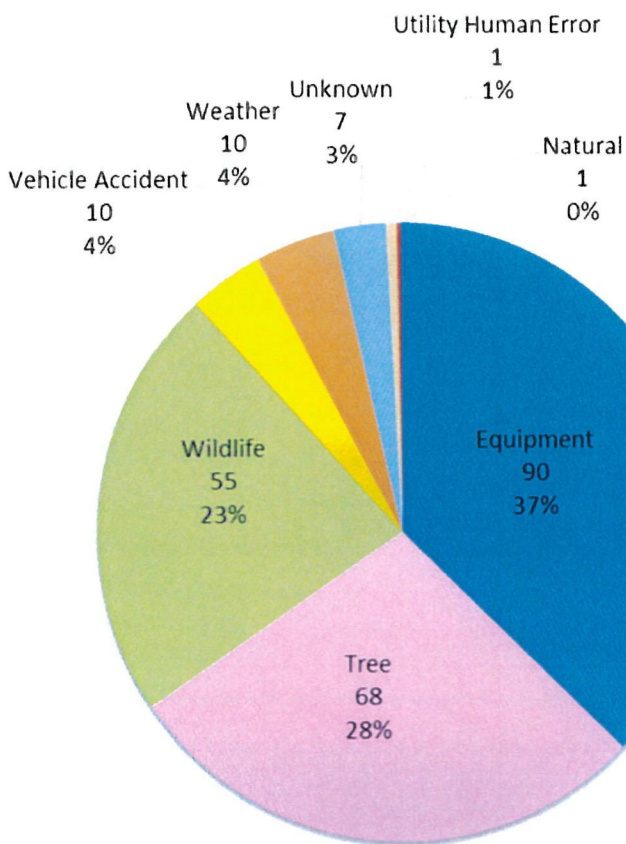
Note: Since SAIDI, SAIFI and CAIDI are sustained interruption indices; only outages lasting longer than one minute are included in the calculations.

Outages Causes Calendar YTD (from eReliability website)

January - March 2015



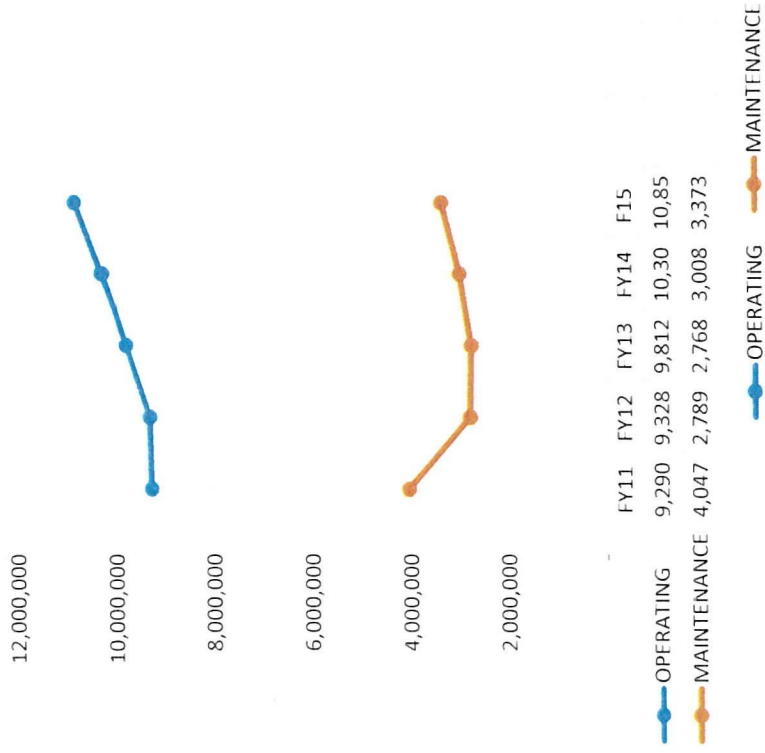
Outage Cause	Count
Equipment	12
Tree	9
Vehicle Accident	3
Utility Human Error	1
Total	25



Outage Causes Annual Average 2010-2015

- Equipment
- Tree
- Wildlife
- Vehicle Accident
- Weather
- Unknown
- Utility Human Error
- Natural

OPERATING AND MAINTENANCE ACTUAL EXPENSES



FINANCIAL REPORT

MARCH 31, 2015

ISSUE DATE: MAY 4, 2015

Dt: May 5, 2015

To: RMLB, Coleen O'Brien, Jeanne Foti

Fr: Bob Fournier

Sj: March 31, 2015 Report

The results for the first nine months ending March 31, 2015, for the fiscal year 2015 will be summarized in the following paragraphs.

1) Change in Net Assets: (Page 3A)

*For the month of March, the net loss or the negative change in net assets was \$817,072 decreasing the year to date net income to \$1,957,387. The year to date budgeted net income was \$1,595,375, resulting in net income being over budget by \$362,012 or 22.7%. Actual year to date fuel expenses exceeded fuel revenues by \$528,071 and purchased power capacity and transmission (ppct) revenues exceed ppct expenses by \$680,901.

2) Revenues: (Page 3A)

*Year to date base revenues were under budget by \$367,498 or 2.18%. Actual base revenues were \$16.4 million compared to the budgeted amount of \$16.8 million.

3) Expenses: (Page 12A)

*Year to date purchased power base expense was over budget by \$506,010 or 2.3%. Actual purchased power base costs were 22.0 million and budgeted power base costs were \$21.5 million.

*Year to date operating and maintenance (O&M) expenses combined were over budget by \$28,274 or .27%. Actual O&M expenses and budgeted expenses were at \$10.6 million.

*Depreciation expense and voluntary payments to the Towns were on budget.

4) Cash: (Page 9)

- *Operating Fund was at \$11,725,347.
- * Capital Fund balance was at \$5,738,974.
- * Rate Stabilization Fund was at \$6,759,552.
- * Deferred Fuel Fund was at \$3,604,623.
- * Energy Conservation Fund was at \$584,792.

5) General Information:

*Year to date kwh sales (Page 5) were 528,921,813 which is 1,970,998 million kwh or .37%, behind last year's actual figure.

Budget Variance:

*Cumulatively, the five divisions were over budget by \$2,575 or .02%

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
BUSINESS-TYPE PROPRIETARY FUND
STATEMENT OF NET ASSETS
3/31/2015

	PREVIOUS YEAR	CURRENT YEAR
ASSETS		
CURRENT		
UNRESTRICTED CASH (SCH A P.9)	13,893,614.38	11,728,347.39
RESTRICTED CASH (SCH A P.9)	15,191,576.82	20,526,355.15
RESTRICTED INVESTMENTS (SCH A P.9)	1,250,000.00	1,292,906.26
RECEIVABLES, NET (SCH B P.10)	6,005,915.12	7,716,416.82
PREPAID EXPENSES (SCH B P.10)	943,553.46	1,900,447.64
INVENTORY	1,453,723.81	1,628,593.44
TOTAL CURRENT ASSETS	38,738,383.59	44,793,066.70
NONCURRENT		
INVESTMENT IN ASSOCIATED CO (SCH C P.2)	31,379.32	26,993.75
CAPITAL ASSETS, NET (SCH C P.2)	70,296,648.63	69,664,353.99
TOTAL NONCURRENT ASSETS	70,328,027.95	69,691,347.74
TOTAL ASSETS	109,066,411.54	114,484,414.44
 LIABILITIES		
CURRENT		
ACCOUNTS PAYABLE	7,901,585.69	6,169,828.91
CUSTOMER DEPOSITS	731,657.83	834,407.02
CUSTOMER ADVANCES FOR CONSTRUCTION	399,624.15	558,908.48
ACCRUED LIABILITIES	190,641.25	171,677.77
TOTAL CURRENT LIABILITIES	9,223,508.92	7,734,822.18
NONCURRENT		
ACCRUED EMPLOYEE COMPENSATED ABSENCES	2,885,367.88	2,918,870.73
TOTAL NONCURRENT LIABILITIES	2,885,367.88	2,918,870.73
TOTAL LIABILITIES	12,108,876.80	10,653,692.91
 NET ASSETS		
INVESTED IN CAPITAL ASSETS, NET OF RELATED DEBT	70,296,648.63	69,664,353.99
RESTRICTED FOR DEPRECIATION FUND (P.9)	4,137,612.78	5,738,974.40
UNRESTRICTED	22,523,273.33	28,427,393.14
TOTAL NET ASSETS (P.3)	96,957,534.74	103,830,721.53
TOTAL LIABILITIES AND NET ASSETS	109,066,411.54	114,484,414.44

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
NONCURRENT ASSET SCHEDULE
3/31/2015

SCHEDULE C

	PREVIOUS YEAR	CURRENT YEAR
SCHEDULE OF INVESTMENTS IN ASSOCIATED COMPANIES		
NEW ENGLAND HYDRO ELECTRIC	3,261.87	2,975.74
NEW ENGLAND HYDRO TRANSMISSION	28,117.45	24,018.01
TOTAL INVESTMENTS IN ASSOCIATED COMPANIES	31,379.32	26,993.75
SCHEDULE OF CAPITAL ASSETS		
LAND	1,265,842.23	1,265,842.23
STRUCTURES AND IMPROVEMENTS	6,430,639.92	6,306,838.38
EQUIPMENT AND FURNISHINGS	12,977,665.88	12,551,310.68
INFRASTRUCTURE	49,622,500.60	49,540,362.70
TOTAL CAPITAL ASSETS, NET	70,296,648.63	69,664,353.99
TOTAL NONCURRENT ASSETS	70,328,027.95	69,691,347.74

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
BUSINESS-TYPE PROPRIETARY FUND
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN FUND NET ASSETS
3/31/2015

	MONTH LAST YEAR	MONTH CURRENT YEAR	LAST YEAR TO DATE	CURRENT YEAR TO DATE	YTD % CHANGE
OPERATING REVENUES: (SCH D P.11)					
BASE REVENUE	3,890,772.46	1,617,939.53	35,242,208.28	16,456,711.52	-53.30%
FUEL REVENUE	3,049,133.54	2,372,124.71	24,255,077.82	26,171,814.75	7.90%
PURCHASED POWER CAPACITY	170,209.37	2,394,543.72	509,434.06	22,667,928.12	4349.63%
FORFEITED DISCOUNTS	90,400.98	111,905.43	709,048.71	646,656.96	-8.80%
ENERGY CONSERVATION REVENUE	54,551.61	51,465.20	522,540.03	517,597.83	-0.95%
GAW REVENUE	14,415.68	0.00	489,669.08	0.00	-100.00%
NYPA CREDIT	(321,914.91)	(130,242.61)	(858,927.11)	(727,657.76)	-15.28%
TOTAL OPERATING REVENUES	6,947,568.73	6,417,735.98	60,869,050.87	65,733,051.42	7.99%
OPERATING EXPENSES: (SCH E P.12)					
PURCHASED POWER CAPACITY	1,426,843.70	1,463,262.28	13,136,735.11	12,825,378.23	-2.37%
PURCHASED POWER TRANSMISSION	897,755.34	951,509.01	8,700,383.05	9,161,648.07	5.30%
PURCHASED POWER FUEL	3,420,919.01	3,101,903.54	25,763,796.92	25,972,228.26	0.81%
OPERATING MAINTENANCE	820,478.90	851,655.64	7,314,220.74	8,137,944.46	11.26%
DEPRECIATION	244,128.37	288,712.09	2,144,643.09	2,530,390.24	17.99%
VOLUNTARY PAYMENTS TO TOWNS	314,969.55	321,788.79	2,834,725.95	2,896,099.11	2.17%
	116,666.67	118,000.00	1,048,517.01	1,052,754.00	0.40%
TOTAL OPERATING EXPENSES	7,241,761.54	7,096,831.35	60,943,021.87	62,576,442.37	2.68%
OPERATING INCOME	(294,192.81)	(679,095.37)	(73,971.00)	3,156,609.05	-4367.36%
NONOPERATING REVENUES (EXPENSES)					
CONTRIBUTIONS IN AID OF CONST	1,918.87	0.00	33,102.73	89,491.75	170.35%
RETURN ON INVESTMENT TO READING	(191,768.42)	(194,405.26)	(1,725,915.76)	(1,749,647.28)	1.38%
INTEREST INCOME	10,469.72	5,641.29	46,253.54	98,271.69	112.46%
INTEREST EXPENSE	(251.77)	(251.41)	(3,440.89)	(3,544.86)	3.02%
OTHER (MDSE AND AMORT)	45,164.06	51,038.49	364,327.33	366,207.02	0.52%
TOTAL NONOPERATING REV (EXP)	(134,467.54)	(137,976.89)	(1,285,673.05)	(1,199,221.68)	-6.72%
CHANGE IN NET ASSETS	(428,660.35)	(817,072.26)	(1,359,644.05)	1,957,387.37	-243.96%
NET ASSETS AT BEGINNING OF YEAR			98,317,178.79	101,873,334.16	3.62%
NET ASSETS AT END OF MARCH			96,957,534.74	103,830,721.53	7.09%

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
BUSINESS-TYPE PROPRIETARY FUND
STATEMENT OF REVENUES, EXPENSES AND CHANGES IN FUND NET ASSETS
3/31/2015

	ACTUAL YEAR TO DATE	BUDGET YEAR TO DATE	VARIANCE*	% CHANGE
OPERATING REVENUES: (SCH F P.11B)				
BASE REVENUE	16,456,711.52	16,824,210.00	(367,498.48)	-2.18%
FUEL REVENUE	26,171,814.75	28,237,970.00	(2,066,155.25)	-7.32%
PURCHASED POWER CAPACITY	22,667,928.12	22,297,499.00	370,429.12	1.66%
FORFEITED DISCOUNTS	646,656.96	850,927.00	(204,270.04)	-24.01%
ENERGY CONSERVATION REVENUE	517,597.83	529,694.00	(12,096.17)	-2.28%
NYPA CREDIT	<u>(727,657.76)</u>	<u>(524,997.00)</u>	<u>(202,660.76)</u>	38.60%
TOTAL OPERATING REVENUES	65,733,051.42	68,215,303.00	(2,482,251.58)	-3.64%
OPERATING EXPENSES: (SCH G P.12A)				
PURCHASED POWER CAPACITY	12,825,378.23	12,255,551.00	569,827.23	4.65%
PURCHASED POWER TRANSMISSION	9,161,648.07	9,225,465.00	(63,816.93)	-0.69%
PURCHASED POWER FUEL	25,972,228.26	29,197,957.00	(3,225,728.74)	-11.05%
OPERATING MAINTENANCE	8,137,944.46	8,196,522.00	(58,577.54)	-0.71%
DEPRECIATION	2,530,390.24	2,443,538.00	86,852.24	3.55%
VOLUNTARY PAYMENTS TO TOWNS	2,896,099.11	2,918,997.00	(22,897.89)	-0.78%
	<u>1,052,754.00</u>	<u>1,062,000.00</u>	<u>(9,246.00)</u>	-0.87%
TOTAL OPERATING EXPENSES	62,576,442.37	65,300,030.00	(2,723,587.63)	-4.17%
OPERATING INCOME	3,156,609.05	2,915,273.00	241,336.05	8.28%
NONOPERATING REVENUES (EXPENSES)				
CONTRIBUTIONS IN AID OF CONST	89,491.75	150,000.00	(60,508.25)	-40.34%
RETURN ON INVESTMENT TO READING	(1,749,647.28)	(1,749,645.00)	(2.28)	0.00%
INTEREST INCOME	98,271.69	74,997.00	23,274.69	31.03%
INTEREST EXPENSE	(3,544.86)	(2,250.00)	(1,294.86)	57.55%
OTHER (MDSE AND AMORT)	366,207.02	207,000.00	159,207.02	76.91%
TOTAL NONOPERATING REV (EXP)	<u>(1,199,221.68)</u>	<u>(1,319,898.00)</u>	<u>120,676.32</u>	-9.14%
CHANGE IN NET ASSETS	1,957,387.37	1,595,375.00	362,012.37	22.69%
NET ASSETS AT BEGINNING OF YEAR	101,873,334.16	101,873,334.16	0.00	0.00%
NET ASSETS AT END OF MARCH	<u><u>103,830,721.53</u></u>	<u><u>103,468,709.16</u></u>	<u><u>362,012.37</u></u>	0.35%

* () = ACTUAL UNDER BUDGET

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
RECONCILIATION OF CAPITAL FUNDS
3/31/2015

SOURCE OF CAPITAL FUNDS:

DEPRECIATION FUND BALANCE 7/1/14	4,130,584.59
CONSTRUCTION FUND BALANCE 7/1/14	1,000,000.00
INTEREST ON DEPRECIATION FUND FY 15	16,139.00
DEPRECIATION TRANSFER FY 15	2,896,099.11
OTHER - LED GRANT	<u>62,500.00</u>

TOTAL SOURCE OF CAPITAL FUNDS 8,105,322.70

USE OF CAPITAL FUNDS:

LESS PAID ADDITIONS TO PLANT THRU MARCH 2,366,348.30

GENERAL LEDGER CAPITAL FUNDS BALANCE 3/31/15 5,738,974.40

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
SALES OF KILOWATT HOURS
3/31/2015

SALES OF ELECTRICITY:	MONTH LAST YEAR	MONTH CURRENT YEAR	LAST YEAR TO DATE	CURRENT YEAR TO DATE	YTD % CHANGE
RESIDENTIAL SALES	20,848,488	20,626,652	202,363,496	199,492,134	-1.42%
COMM. AND INDUSTRIAL SALES	31,768,994	29,273,602	304,897,175	304,911,288	0.00%
PRIVATE STREET LIGHTING	76,479	79,624	675,927	712,545	5.42%
TOTAL PRIVATE CONSUMERS	<u>52,693,961</u>	<u>49,979,878</u>	<u>507,936,598</u>	<u>505,115,967</u>	-0.56%
MUNICIPAL SALES:					
STREET LIGHTING	240,064	237,189	2,158,478	2,179,674	0.98%
MUNICIPAL BUILDINGS	884,289	785,967	7,350,967	7,432,444	1.11%
TOTAL MUNICIPAL CONSUMERS	<u>1,124,353</u>	<u>1,023,156</u>	<u>9,509,445</u>	<u>9,612,118</u>	1.08%
SALES FOR RESALE	284,914	246,558	2,591,545	2,584,169	-0.28%
SCHOOL	1,341,677	1,291,370	10,855,223	11,609,559	6.95%
TOTAL KILOWATT HOURS SOLD	<u>55,444,905</u>	<u>52,540,962</u>	<u>530,892,811</u>	<u>528,921,813</u>	-0.37%

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
KILOWATT HOURS SOLD BY TOWN
3/31/2015

MONTH	TOTAL	READING	LYNNFIELD	NO. READING	WILMINGTON
RESIDENTIAL	20,626,652	6,751,327	2,663,968	4,885,817	6,325,540
COMM & IND	29,273,602	3,793,204	208,689	4,404,108	20,867,601
PVT ST LIGHTS	79,624	13,418	1,490	24,791	39,925
PUB ST LIGHTS	237,189	79,671	32,299	41,206	84,013
MUNI BLDGS	785,967	257,775	134,583	120,819	272,790
SALES/RESALE	246,558	246,558	0	0	0
SCHOOL	1,291,370	441,017	239,928	260,940	349,485
TOTAL	52,540,962	11,582,970	3,280,957	9,737,681	27,939,354

YEAR TO DATE

RESIDENTIAL	199,492,134	62,381,127	28,379,843	45,642,242	63,088,922
COMM & IND	304,911,288	38,245,933	2,396,039	47,012,246	217,257,070
PVT ST LIGHTS	712,545	120,446	13,649	223,339	355,111
PUB ST LIGHTS	2,179,674	732,410	294,595	382,641	770,028
MUNI BLDGS	7,432,444	2,031,996	1,511,121	1,281,400	2,607,927
SALES/RESALE	2,584,169	2,584,169	0	0	0
SCHOOL	11,609,559	3,910,113	2,400,757	1,980,040	3,318,649
TOTAL	528,921,813	110,006,194	34,996,004	96,521,908	287,397,707

LAST YEAR
TO DATE

RESIDENTIAL	202,363,496	64,089,035	28,385,340	46,971,337	62,917,784
COMM & IND	304,897,175	38,581,340	2,483,314	47,824,019	216,008,502
PVT ST LIGHTS	675,927	118,009	12,680	204,680	340,558
PUB ST LIGHTS	2,158,478	726,138	292,500	377,757	762,083
MUNI BLDGS	7,350,967	2,054,108	1,445,389	1,289,327	2,562,143
SALES/RESALE	2,591,545	2,591,545	0	0	0
SCHOOL	10,855,223	3,873,370	2,445,386	1,351,200	3,185,267
TOTAL	530,892,811	112,033,545	35,064,609	98,018,320	285,776,337

KILOWATT HOURS SOLD TO TOTAL

MONTH	TOTAL	READING	LYNNFIELD	NO. READING	WILMINGTON
RESIDENTIAL	39.26%	12.85%	5.07%	9.30%	12.04%
COMM & IND	55.72%	7.22%	0.40%	8.38%	39.72%
PVT ST LIGHTS	0.15%	0.03%	0.00%	0.05%	0.07%
PUB ST LIGHTS	0.45%	0.15%	0.06%	0.08%	0.16%
MUNI BLDGS	1.50%	0.49%	0.26%	0.23%	0.52%
SALES/RESALE	0.47%	0.47%	0.00%	0.00%	0.00%
SCHOOL	2.45%	0.84%	0.46%	0.50%	0.65%
TOTAL	100.00%	22.05%	6.25%	18.54%	53.16%

YEAR TO DATE

RESIDENTIAL	37.72%	11.79%	5.37%	8.63%	11.93%
COMM & IND	57.65%	7.23%	0.45%	8.89%	41.08%
PVT ST LIGHTS	0.13%	0.02%	0.00%	0.04%	0.07%
PUB ST LIGHTS	0.41%	0.14%	0.06%	0.07%	0.14%
MUNI BLDGS	1.41%	0.38%	0.29%	0.24%	0.50%
SALES/RESALE	0.49%	0.49%	0.00%	0.00%	0.00%
SCHOOL	2.19%	0.74%	0.45%	0.37%	0.63%
TOTAL	100.00%	20.79%	6.62%	18.24%	54.35%

LAST YEAR
TO DATE

RESIDENTIAL	38.12%	12.07%	5.35%	8.85%	11.85%
COMM & IND	57.43%	7.27%	0.47%	9.01%	40.68%
PVT ST LIGHTS	0.13%	0.02%	0.00%	0.04%	0.07%
PUB ST LIGHTS	0.41%	0.14%	0.06%	0.07%	0.14%
MUNI BLDGS	1.38%	0.39%	0.27%	0.24%	0.48%
SALES/RESALE	0.49%	0.49%	0.00%	0.00%	0.00%
SCHOOL	2.04%	0.73%	0.46%	0.25%	0.60%
TOTAL	100.00%	21.11%	6.61%	18.46%	53.82%

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
FORMULA INCOME
3/31/2015

TOTAL OPERATING REVENUES	(P.3)	65,733,051.42
ADD:		
POLE RENTAL		0.00
INTEREST INCOME ON CUSTOMER DEPOSITS		3,566.17
LESS:		
OPERATING EXPENSES	(P.3)	(62,576,442.37)
CUSTOMER DEPOSIT INTEREST EXPENSE		(3,544.86)
FORMULA INCOME (LOSS)		<u>3,156,630.36</u>

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
GENERAL STATISTICS
3/31/2015

		MONTH OF MAR 2014	MONTH OF MAR 2015	% CHANGE		YEAR MAR 2014	THRU MAR 2015
				2014.	2015		
SALE OF KWH	(P.5)	55,444,905	52,540,962	-1.45%	-0.37%	530,892,811	528,921,813
KWH PURCHASED		59,029,265	58,925,210	-0.49%	-3.04%	551,961,652	535,201,067
AVE BASE COST PER KWH		0.039380	0.024833	2.80%	-39.43%	0.039563	0.023964
AVE BASE SALE PER KWH		0.070174	0.030794	2.56%	-53.13%	0.066383	0.031114
AVE COST PER KWH		0.097333	0.077474	0.33%	-15.94%	0.086240	0.072492
AVE SALE PER KWH		0.125168	0.075942	-2.57%	-28.09%	0.112070	0.080595
FUEL CHARGE REVENUE	(P.3)	2,727,218.63	2,241,882.10	-11.84%	8.75%	23,396,150.71	25,444,156.99
LOAD FACTOR		77.13%	78.85%				
PEAK LOAD		104,839	102,366				

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
SCHEDULE OF CASH AND INVESTMENTS
3/31/2015

SCHEDULE A

	PREVIOUS YEAR	CURRENT YEAR
UNRESTRICTED CASH		
CASH - OPERATING FUND	13,890,614.38	11,725,347.39
CASH - PETTY CASH	3,000.00	3,000.00
TOTAL UNRESTRICTED CASH	13,893,614.38	11,728,347.39
 RESTRICTED CASH		
CASH - DEPRECIATION FUND	4,137,612.78	5,738,974.40
CASH - TOWN PAYMENT	925,305.27	937,215.75
CASH - DEFERRED FUEL RESERVE	241,841.17	3,604,623.69
CASH - RATE STABILIZATION FUND	6,709,447.36	6,759,552.68
CASH - UNCOLLECTIBLE ACCTS RESERVE	200,000.00	200,000.00
CASH - SICK LEAVE BENEFITS	1,645,706.94	1,716,789.36
CASH - HAZARD WASTE RESERVE	150,000.00	150,000.00
CASH - CUSTOMER DEPOSITS	731,657.83	834,407.02
CASH - ENERGY CONSERVATION	450,005.47	584,792.25
TOTAL RESTRICTED CASH	15,191,576.82	20,526,355.15
 INVESTMENTS		
SICK LEAVE BUYBACK	1,250,000.00	1,292,906.26
TOTAL CASH BALANCE	30,335,191.20	33,547,608.80

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
SCHEDULE OF ACCOUNTS RECEIVABLE
3/31/2015

SCHEDULE B

SCHEDULE OF ACCOUNTS RECEIVABLE	PREVIOUS YEAR	CURRENT YEAR
RESIDENTIAL AND COMMERCIAL	2,167,663.98	2,434,566.15
ACCOUNTS RECEIVABLE - OTHER	75,136.50	103,232.78
ACCOUNTS RECEIVABLE - LIENS	37,169.47	33,214.37
ACCOUNTS RECEIVABLE - EMPLOYEE ADVANCES	892.14	892.14
SALES DISCOUNT LIABILITY	(220,754.60)	(189,102.33)
RESERVE FOR UNCOLLECTIBLE ACCOUNTS	(212,214.87)	(288,655.57)
TOTAL ACCOUNTS RECEIVABLE BILLED	1,847,892.62	2,094,147.54
UNBILLED ACCOUNTS RECEIVABLE	4,158,022.50	5,622,269.28
TOTAL ACCOUNTS RECEIVABLE, NET	6,005,915.12	7,716,416.82

SCHEDULE OF PREPAYMENTS

PREPAID INSURANCE	1,018,637.22	1,008,368.32
PREPAYMENT PURCHASED POWER	(606,229.13)	358,882.24
PREPAYMENT PASNY	242,260.90	259,957.39
PREPAYMENT WATSON	274,360.77	260,539.58
PURCHASED POWER WORKING CAPITAL	14,523.70	12,700.11
TOTAL PREPAYMENT	943,553.46	1,900,447.64

ACCOUNTS RECEIVABLE AGING MARCH 2015:

RESIDENTIAL AND COMMERCIAL	2,434,566.15
LESS: SALES DISCOUNT LIABILITY	(189,102.33)
GENERAL LEDGER BALANCE	2,245,463.82

CURRENT	1,682,844.67	74.95%
30 DAYS	421,241.29	18.76%
60 DAYS	72,056.60	3.21%
90 DAYS	21,631.88	0.96%
OVER 90 DAYS	47,689.38	2.12%
TOTAL	2,245,463.82	100.00%

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
SCHEDULE OF OPERATING REVENUE
3/31/2015

SCHEDULE D

SALES OF ELECTRICITY:	MONTH LAST YEAR	MONTH CURRENT YEAR	LAST YEAR TO DATE	CURRENT YEAR TO DATE	YTD % CHANGE
RESIDENTIAL SALES	2,895,802.39	1,859,329.86	25,311,684.49	18,896,674.52	-25.34%
COMM AND INDUSTRIAL SALES	3,700,746.74	2,014,889.49	31,577,868.74	21,795,933.70	-30.98%
PRIVATE STREET LIGHTING	6,657.81	9,148.12	51,714.40	84,797.20	63.97%
TOTAL PRIVATE CONSUMERS	<u>6,603,206.94</u>	<u>3,883,367.47</u>	<u>56,941,267.63</u>	<u>40,777,405.42</u>	-28.39%
MUNICIPAL SALES:					
STREET LIGHTING	30,676.78	(64,851.50)	247,385.70	174,044.60	-29.65%
MUNICIPAL BUILDINGS	109,418.66	59,375.40	832,026.41	582,186.39	-30.03%
TOTAL MUNICIPAL CONSUMERS	<u>140,095.44</u>	<u>(5,476.10)</u>	<u>1,079,412.11</u>	<u>756,230.99</u>	-29.94%
SALES FOR RESALE	36,669.33	19,691.69	300,347.00	219,485.22	-26.92%
SCHOOL	159,934.29	92,481.18	1,176,259.36	875,404.64	-25.58%
SUB-TOTAL	6,939,906.00	3,990,064.24	59,497,286.10	42,628,526.27	-28.35%
FORFEITED DISCOUNTS	90,400.98	111,905.43	709,048.71	646,656.96	-8.80%
PURCHASED POWER CAPACITY	170,209.37	2,394,543.72	509,434.06	22,667,928.12	4349.63%
ENERGY CONSERVATION - RESIDENTIAL	20,863.23	20,658.31	202,475.22	199,629.26	-1.41%
ENERGY CONSERVATION - COMMERCIAL	33,688.38	30,806.89	320,064.81	317,968.57	-0.65%
GAW REVENUE	14,415.68	0.00	489,669.08	0.00	-100.00%
NYPA CREDIT	(321,914.91)	(130,242.61)	(858,927.11)	(727,657.76)	-15.28%
TOTAL REVENUE	<u>6,947,568.73</u>	<u>6,417,735.98</u>	<u>60,869,050.87</u>	<u>65,733,051.42</u>	7.99%

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
SCHEDULE OF OPERATING REVENUE BY TOWN
3/31/2015

MONTH	TOTAL	READING	LYNNFIELD	NO. READING	WILMINGTON
RESIDENTIAL	1,859,329.86	611,133.05	239,222.21	439,467.60	569,507.00
INDUS/MUNI BLDG	2,074,264.89	312,253.39	28,264.19	332,640.59	1,401,106.72
PUB. ST. LIGHTS	(64,851.50)	(21,631.70)	(8,669.55)	(11,595.43)	(22,954.82)
PRV. ST. LIGHTS	9,148.12	1,504.29	174.14	2,978.28	4,491.41
CO-OP RESALE	19,691.69	19,691.69	0.00	0.00	0.00
SCHOOL	92,481.18	31,463.70	17,073.02	18,936.20	25,008.26
TOTAL	3,990,064.24	954,414.42	276,064.01	782,427.24	1,977,158.57

THIS YEAR TO DATE

RESIDENTIAL	18,896,674.52	5,935,691.05	2,672,364.35	4,314,726.50	5,973,892.62
INDUS/MUNI BLDG	22,378,120.09	3,195,418.54	318,364.04	3,629,456.77	15,234,880.74
PUB. ST. LIGHTS	174,144.60	58,482.14	23,523.09	30,553.47	61,585.90
PRV. ST. LIGHTS	84,797.20	14,061.11	1,651.90	27,562.07	41,522.12
CO-OP RESALE	219,485.22	219,485.22	0.00	0.00	0.00
SCHOOL	875,404.64	298,077.28	178,992.72	151,533.35	246,801.29
TOTAL	42,628,626.27	9,721,215.34	3,194,896.08	8,153,832.17	21,558,682.68

LAST YEAR TO DATE

RESIDENTIAL	25,311,684.49	8,051,844.14	3,529,042.12	5,874,286.60	7,856,511.63
INDUS/MUNI BLDG	32,409,895.15	4,515,300.10	442,633.04	5,252,830.41	22,199,131.60
PUB. ST. LIGHTS	247,385.70	80,418.06	31,758.49	43,976.63	91,232.52
PRV. ST. LIGHTS	51,714.40	8,934.69	950.56	16,203.51	25,625.64
CO-OP RESALE	300,347.00	300,347.00	0.00	0.00	0.00
SCHOOL	1,176,259.36	422,015.66	260,088.96	151,411.05	342,743.69
TOTAL	59,497,286.10	13,378,859.65	4,264,473.17	11,338,708.20	30,515,245.08

PERCENTAGE OF OPERATING INCOME TO TOTAL

MONTH	TOTAL	READING	LYNNFIELD	NO. READING	WILMINGTON
RESIDENTIAL	46.60%	15.32%	6.00%	11.01%	14.27%
INDUS/MUNI BLDG	51.99%	7.83%	0.71%	8.34%	35.11%
PUB. ST. LIGHTS	-1.63%	-0.54%	-0.22%	-0.29%	-0.58%
PRV. ST. LIGHTS	0.23%	0.04%	0.00%	0.07%	0.12%
CO-OP RESALE	0.49%	0.49%	0.00%	0.00%	0.00%
SCHOOL	2.32%	0.79%	0.43%	0.47%	0.63%
TOTAL	100.00%	23.93%	6.92%	19.60%	49.55%

THIS YEAR TO DATE

RESIDENTIAL	44.33%	13.92%	6.27%	10.12%	14.02%
INDUS/MUNI BLDG	52.50%	7.50%	0.75%	8.51%	35.74%
PUB. ST. LIGHTS	0.41%	0.14%	0.06%	0.07%	0.14%
PRV. ST. LIGHTS	0.20%	0.03%	0.00%	0.06%	0.11%
CO-OP RESALE	0.51%	0.51%	0.00%	0.00%	0.00%
SCHOOL	2.05%	0.70%	0.42%	0.36%	0.57%
TOTAL	100.00%	22.80%	7.50%	19.12%	50.58%

LAST YEAR TO DATE

RESIDENTIAL	42.54%	13.53%	5.93%	9.87%	13.21%
INDUS/MUNI BLDG	54.47%	7.59%	0.74%	8.83%	37.31%
PUB. ST. LIGHTS	0.42%	0.14%	0.05%	0.07%	0.16%
PRV. ST. LIGHTS	0.09%	0.02%	0.00%	0.03%	0.04%
CO-OP RESALE	0.50%	0.50%	0.00%	0.00%	0.00%
SCHOOL	1.98%	0.71%	0.44%	0.25%	0.58%
TOTAL	100.00%	22.49%	7.16%	19.05%	51.30%

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
BUDGETED REVENUE VARIANCE REPORT
3/31/2015

SCHEDULE F

	ACTUAL YEAR TO DATE	BUDGET YEAR TO DATE	VARIANCE *	% CHANGE
SALES OF ELECTRICITY:				
RESIDENTIAL	8,942,410.17	8,832,203.00	110,207.17	1.25%
COMM AND INDUSTRIAL SALES PRIVATE STREET LIGHTING MUNICIPAL BUILDINGS	7,052,351.70	7,328,438.00	(276,086.30)	-3.77%
PUBLIC STREET LIGHTING	66,907.17	264,106.00	(197,198.83)	-74.67%
SALES FOR RESALE	90,013.54	103,602.00	(13,588.46)	-13.12%
SCHOOL	<u>305,028.94</u>	<u>295,861.00</u>	<u>9,167.94</u>	3.10%
 TOTAL BASE SALES	 16,456,711.52	 16,824,210.00	 (367,498.48)	 -2.18%
TOTAL FUEL SALES	<u>26,171,814.75</u>	<u>28,237,970.00</u>	<u>(2,066,155.25)</u>	-7.32%
TOTAL OPERATING REVENUE	42,628,526.27	45,062,180.00	(2,433,653.73)	-5.40%
FORFEITED DISCOUNTS	646,656.96	850,927.00	(204,270.04)	-24.01%
PURCHASED POWER CAPACITY	22,667,928.12	22,297,499.00	370,429.12	100.00%
ENERGY CONSERVATION - RESIDENTIAL	199,629.26	200,744.00	(1,114.74)	-0.56%
ENERGY CONSERVATION - COMMERCIAL	317,968.57	328,950.00	(10,981.43)	-3.34%
NYPA CREDIT	(727,657.76)	(524,997.00)	(202,660.76)	38.60%
 TOTAL OPERATING REVENUES	 <u><u>65,733,051.42</u></u>	 <u><u>68,215,303.00</u></u>	 <u><u>(2,482,251.58)</u></u>	 -3.64%

* () = ACTUAL UNDER BUDGET

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
SCHEDULE OF OPERATING EXPENSES
3/31/2015

SCHEDULE E

OPERATION EXPENSES:	MONTH LAST YEAR	MONTH CURRENT YEAR	LAST YEAR TO DATE	CURRENT YEAR TO DATE	YTD % CHANGE
PURCHASED POWER CAPACITY	1,426,843.70	1,463,262.28	13,136,735.11	12,825,378.23	-2.37%
PURCHASED POWER TRANSMISSION	897,755.34	951,509.01	8,700,383.05	9,161,648.07	5.30%
TOTAL PURCHASED POWER	2,324,599.04	2,414,771.29	21,837,118.16	21,987,026.30	0.69%
OPERATION SUP AND ENGINEERING EXP	38,661.63	47,212.01	382,927.55	397,020.38	3.68%
STATION SUP LABOR AND MISC	9,668.87	13,542.19	87,038.79	120,176.99	38.07%
LINE MISC LABOR AND EXPENSE	46,730.27	57,100.53	594,599.52	631,164.63	6.15%
STATION LABOR AND EXPENSE	33,834.44	45,733.74	365,713.98	388,748.01	6.30%
STREET LIGHTING EXPENSE	6,420.58	9,015.47	57,585.48	69,008.86	19.84%
METER EXPENSE	16,931.59	16,850.22	162,546.89	149,393.14	-8.09%
MISC DISTRIBUTION EXPENSE	33,911.39	34,555.39	278,301.52	338,479.57	21.62%
METER READING LABOR & EXPENSE	310.37	474.28	17,521.50	12,544.01	-28.41%
ACCT & COLL LABOR & EXPENSE	138,704.45	156,442.59	1,145,146.28	1,337,448.81	16.79%
UNCOLLECTIBLE ACCOUNTS	10,500.00	10,000.00	94,500.00	90,000.00	-4.76%
ENERGY AUDIT EXPENSE	26,733.31	31,758.41	280,146.84	304,910.18	8.84%
ADMIN & GEN SALARIES	83,389.67	52,682.28	662,654.63	599,227.56	-9.57%
OFFICE SUPPLIES & EXPENSE	27,853.77	29,214.26	212,238.70	231,992.91	9.31%
OUTSIDE SERVICES	18,462.14	29,435.30	304,504.17	297,977.62	-2.14%
PROPERTY INSURANCE	28,463.75	31,242.39	259,441.76	272,737.70	5.12%
INJURIES AND DAMAGES	3,389.53	4,472.39	31,336.26	33,566.42	7.12%
EMPLOYEES PENSIONS & BENEFITS	236,418.17	225,136.83	1,701,007.77	2,233,137.41	31.28%
MISC GENERAL EXPENSE	15,308.53	6,800.84	132,025.62	111,828.46	-15.30%
RENT EXPENSE	17,853.12	16,485.41	153,427.26	128,515.22	-16.24%
ENERGY CONSERVATION	26,933.32	33,501.11	391,556.22	390,066.58	-0.38%
TOTAL OPERATION EXPENSES	820,478.90	851,655.64	7,314,220.74	8,137,944.46	11.26%
MAINTENANCE EXPENSES:					
MAINT OF TRANSMISSION PLANT	227.08	227.08	2,043.74	2,043.74	0.00%
MAINT OF STRUCT AND EQUIPMT	11,974.30	35,932.35	131,345.76	400,337.11	204.80%
MAINT OF LINES - OH	151,586.98	157,594.53	1,223,040.55	1,312,532.65	7.32%
MAINT OF LINES - UG	16,287.00	16,192.11	152,114.83	129,667.45	-14.76%
MAINT OF LINE TRANSFORMERS	0.00	0.00	87,218.31	61,321.32	0.00%
MAINT OF ST LT & SIG SYSTEM	(52.84)	(42.87)	(457.28)	(149.25)	-67.36%
MAINT OF GARAGE AND STOCKROOM	50,975.23	62,985.67	428,743.44	460,960.03	7.51%
MAINT OF METERS	206.71	0.00	11,495.05	0.00	-100.00%
MAINT OF GEN PLANT	12,923.91	15,823.22	109,098.69	163,677.19	50.03%
TOTAL MAINTENANCE EXPENSES	244,128.37	288,712.09	2,144,643.09	2,530,390.24	17.99%
DEPRECIATION EXPENSE	314,969.55	321,788.79	2,834,725.95	2,896,099.11	2.17%
PURCHASED POWER FUEL EXPENSE	3,420,919.01	3,101,903.54	25,763,796.92	25,972,228.26	0.81%
VOLUNTARY PAYMENTS TO TOWNS	116,666.67	118,000.00	1,048,517.01	1,052,754.00	0.40%
TOTAL OPERATING EXPENSES	7,241,761.54	7,096,831.35	60,943,021.87	62,576,442.37	2.68%

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
BUDGETED OPERATING EXPENSE VARIANCE REPORT
3/31/2015

SCHEDULE G

OPERATION EXPENSES:	ACTUAL YEAR TO DATE	BUDGET YEAR TO DATE	VARIANCE *	% CHANGE
PURCHASED POWER CAPACITY	12,825,378.23	12,255,551.00	569,827.23	4.65%
PURCHASED POWER TRANSMISSION	9,161,648.07	9,225,465.00	(63,816.93)	-0.69%
TOTAL PURCHASED POWER	21,987,026.30	21,481,016.00	506,010.30	2.36%
OPERATION SUP AND ENGINEERING EXP	397,020.38	437,631.00	(40,610.62)	-9.28%
STATION SUP LABOR AND MISC	120,176.99	81,259.00	38,917.99	47.89%
LINE MISC LABOR AND EXPENSE	631,164.63	509,336.00	121,828.63	23.92%
STATION LABOR AND EXPENSE	388,748.01	299,653.00	89,095.01	29.73%
STREET LIGHTING EXPENSE	69,008.86	62,447.00	6,561.86	10.51%
METER EXPENSE	149,393.14	181,806.00	(32,412.86)	-17.83%
MISC DISTRIBUTION EXPENSE	338,479.57	303,164.00	35,315.57	11.65%
METER READING LABOR & EXPENSE	12,544.01	23,167.00	(10,622.99)	-45.85%
ACCT & COLL LABOR & EXPENSE	1,337,448.81	1,288,127.00	49,321.81	3.83%
UNCOLLECTIBLE ACCOUNTS	90,000.00	90,000.00	0.00	0.00%
ENERGY AUDIT EXPENSE	304,910.18	366,195.00	(61,284.82)	-16.74%
ADMIN & GEN SALARIES	599,227.56	631,307.00	(32,079.44)	-5.08%
OFFICE SUPPLIES & EXPENSE	231,992.91	225,900.00	6,092.91	2.70%
OUTSIDE SERVICES	297,977.62	272,465.00	25,512.62	9.36%
PROPERTY INSURANCE	272,737.70	340,056.00	(67,318.30)	-19.80%
INJURIES AND DAMAGES	33,566.42	36,942.00	(3,375.58)	-9.14%
EMPLOYEES PENSIONS & BENEFITS	2,233,137.41	2,099,122.00	134,015.41	6.38%
MISC GENERAL EXPENSE	111,828.46	205,372.00	(93,543.54)	-45.55%
RENT EXPENSE	128,515.22	159,003.00	(30,487.78)	-19.17%
ENERGY CONSERVATION	390,066.58	583,570.00	(193,503.42)	-33.16%
TOTAL OPERATION EXPENSES	8,137,944.46	8,196,522.00	(58,577.54)	-0.71%
MAINTENANCE EXPENSES:				
MAINT OF TRANSMISSION PLANT	2,043.74	2,250.00	(206.26)	-9.17%
MAINT OF STRUCT AND EQUIPMENT	400,337.11	362,822.00	37,515.11	10.34%
MAINT OF LINES - OH	1,312,532.65	1,256,412.00	56,120.65	4.47%
MAINT OF LINES - UG	129,667.45	98,093.00	31,574.45	32.19%
MAINT OF LINE TRANSFORMERS	61,321.32	117,000.00	(55,678.68)	-47.59%
MAINT OF ST LT & SIG SYSTEM	(149.25)	7,341.00	(7,490.25)	-102.03%
MAINT OF GARAGE AND STOCKROOM	460,960.03	434,894.00	26,066.03	5.99%
MAINT OF METERS	0.00	37,205.00	(37,205.00)	-100.00%
MAINT OF GEN PLANT	163,677.19	127,521.00	36,156.19	28.35%
TOTAL MAINTENANCE EXPENSES	2,530,390.24	2,443,538.00	86,852.24	3.55%
DEPRECIATION EXPENSE	2,896,099.11	2,918,997.00	(22,897.89)	-0.78%
PURCHASED POWER FUEL EXPENSE	25,972,228.26	29,197,957.00	(3,225,728.74)	-11.05%
VOLUNTARY PAYMENTS TO TOWNS	1,052,754.00	1,062,000.00	(9,246.00)	-0.87%
TOTAL OPERATING EXPENSES	62,576,442.37	65,300,030.00	(2,723,587.63)	-4.17%

* () = ACTUAL UNDER BUDGET

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
BUDGETED OPERATING EXPENSE VARIANCE REPORT
3/31/2015

OPERATION EXPENSES:	RESPONSIBLE SENIOR MANAGER	2015 ANNUAL BUDGET	ACTUAL YEAR TO DATE	REMAINING BUDGET BALANCE	REMAINING BUDGET %
PURCHASED POWER CAPACITY	JP	16,332,282.00	12,825,378.23	3,506,903.77	21.47%
PURCHASED POWER TRANSMISSION	JP	12,556,732.00	9,161,648.07	3,395,083.93	27.04%
TOTAL PURCHASED POWER		<u>28,889,014.00</u>	<u>21,987,026.30</u>	<u>6,901,987.70</u>	23.89%
OPERATION SUP AND ENGINEERING EXP	HJ	583,668.00	397,020.38	186,647.62	31.98%
STATION SUP LABOR AND MISC	HJ	108,848.00	120,176.99	(11,328.99)	-10.41%
LINE MISC LABOR AND EXPENSE	HJ	657,259.00	631,164.63	26,094.37	3.97%
STATION LABOR AND EXPENSE	HJ	398,849.00	388,748.01	10,100.99	2.53%
STREET LIGHTING EXPENSE	HJ	82,907.00	69,008.86	13,898.14	16.76%
METER EXPENSE	HJ	247,938.00	149,393.14	98,544.86	39.75%
MISC DISTRIBUTION EXPENSE	HJ	402,885.00	338,479.57	64,405.43	15.99%
METER READING LABOR & EXPENSE	HJ	30,922.00	12,544.01	18,377.99	59.43%
ACCT & COLL LABOR & EXPENSE	RF	1,705,333.00	1,337,448.81	367,884.19	21.57%
UNCOLLECTIBLE ACCOUNTS	RF	120,000.00	90,000.00	30,000.00	25.00%
ENERGY AUDIT EXPENSE	JP	488,284.00	304,910.18	183,373.82	37.55%
ADMIN & GEN SALARIES	CO	842,170.00	599,227.56	242,942.44	28.85%
OFFICE SUPPLIES & EXPENSE	CO	301,000.00	231,992.91	69,007.09	22.93%
OUTSIDE SERVICES	CO	351,650.00	297,977.62	53,672.38	15.26%
PROPERTY INSURANCE	HJ	453,200.00	272,737.70	180,462.30	39.82%
INJURIES AND DAMAGES	HJ	49,059.00	33,566.42	15,492.58	31.58%
EMPLOYEES PENSIONS & BENEFITS	HJ	2,746,619.00	2,233,137.41	513,481.59	18.70%
MISC GENERAL EXPENSE	CO	240,727.00	111,828.46	128,898.54	53.55%
RENT EXPENSE	HJ	212,000.00	128,515.22	83,484.78	39.38%
ENERGY CONSERVATION	JP	778,812.00	390,066.58	388,745.42	49.92%
TOTAL OPERATION EXPENSES		<u>10,802,130.00</u>	<u>8,137,944.46</u>	<u>2,664,185.54</u>	24.66%
MAINTENANCE EXPENSES:					
MAINT OF TRANSMISSION PLANT	HJ	3,000.00	2,043.74	956.26	31.88%
MAINT OF STRUCT AND EQUIPMT	HJ	484,026.00	400,337.11	83,688.89	17.29%
MAINT OF LINES - OH	HJ	1,675,794.00	1,312,532.65	363,261.35	21.68%
MAINT OF LINES - UG	HJ	130,694.00	129,667.45	1,026.55	0.79%
MAINT OF LINE TRANSFORMERS	HJ	156,000.00	61,321.32	94,678.68	60.69%
MAINT OF ST LT & SIG SYSTEM	HJ	9,745.00	(149.25)	9,894.25	101.53%
MAINT OF GARAGE AND STOCKROOM	HJ	567,531.00	460,960.03	106,570.97	18.78%
MAINT OF METERS	HJ	43,290.00	0.00	43,290.00	100.00%
MAINT OF GEN PLANT	RF	170,180.00	163,677.19	6,502.81	3.82%
TOTAL MAINTENANCE EXPENSES		<u>3,240,260.00</u>	<u>2,530,390.24</u>	<u>709,869.76</u>	21.91%
DEPRECIATION EXPENSE	RF	3,892,000.00	2,896,099.11	995,900.89	25.59%
PURCHASED POWER FUEL EXPENSE	JP	36,249,653.00	25,972,228.26	10,277,424.74	28.35%
VOLUNTARY PAYMENTS TO TOWNS	RF	1,416,000.00	1,052,754.00	363,246.00	25.65%
TOTAL OPERATING EXPENSES		<u>84,489,057.00</u>	<u>62,576,442.37</u>	<u>21,912,614.63</u>	25.94%

TOWN OF READING, MASSACHUSETTS
MUNICIPAL LIGHT DEPARTMENT
PROFESSIONAL SERVICES
03/31/2015

PROFESSIONAL SERVICES BY PROJECT

ITEM	DEPARTMENT	ACTUAL	BUDGET	VARIANCE
1 RMLD AND PENSION TRUST AUDIT FEES	ACCOUNTING	35,297.34	35,000.00	297.34
2 LEGAL-FERC/ISO/POWER/OTHER	INTEGRATED RESOURCES	116,438.60	103,725.00	12,713.60
3 NERC COMPLIANCE AND AUDIT	E & O	12,490.00	7,875.00	4,615.00
4 LEGAL	ENGINEERING	6,844.50	10,125.00	(3,280.50)
5 LEGAL-GENERAL	GM	109,231.35	39,753.00	69,478.35
6 LEGAL SERVICES	HR	17,675.83	47,997.00	(30,321.17)
7 SURVEY RIGHT OF WAY/ ENVIRONMENTAL	BLDG. MAINT.	0.00	7,740.00	(7,740.00)
8 INSURANCE CONSULTANT/OTHER	GEN. BENEFIT	0.00	20,250.00	(20,250.00)
TOTAL		<u>297,977.62</u>	<u>272,465.00</u>	<u>25,512.62</u>

PROFESSIONAL SERVICES BY VENDOR

	ACTUAL
MELANSON HEATH & COMPANY	29,920.00
PLM ELECTRIC POWER COMPANY	14,526.50
RUBIN AND RUDMAN	197,401.33
UTILTIY SERVICES INC.	12,490.00
CHOATE HALL & STEWART	9,184.08
WILLIAM F. CROWLEY- ATTORNEY	2,477.24
HUDSON RIVER ENERGY GROUP	2,925.62
STONE CONSULTING	1,000.00
TRI COUNTY APPRAISAL OF SOUTH FLORIDA	525.00
DUNCAN & ALLEN	27,527.85
TOTAL	<u>297,977.62</u>

RMLD
 DEFERRED FUEL CASH RESERVE ANALYSIS
 03/31/15

DATE	GROSS CHARGES	REVENUES	NYPA CREDIT	MONTHLY DEFERRED	TOTAL DEFERRED
Jun-14					4,132,694.96
Jul-14	3,287,589.94	3,782,699.41	(35,898.34)	459,211.13	4,591,906.09
Aug-14	2,768,364.01	3,844,854.74	(47,884.92)	1,028,605.81	5,620,511.90
Sep-14	2,358,565.60	2,758,999.30	(73,836.15)	326,597.55	5,947,109.45
Oct-14	2,290,434.18	2,425,374.16	(74,545.03)	60,394.95	6,007,504.40
Nov-14	2,374,999.11	2,418,013.33	(68,098.89)	(25,084.67)	5,982,419.73
Dec-14	2,754,212.60	2,662,761.53	(81,999.49)	(173,450.56)	5,808,969.17
Jan-15	3,456,178.99	2,845,745.09	(100,190.60)	(710,624.50)	5,098,344.67
Feb-15	3,579,980.29	3,061,242.48	(114,961.73)	(633,699.54)	4,464,645.13
Mar-15	3,101,903.54	2,372,124.71	(130,242.61)	(860,021.44)	3,604,623.69

RMLD
 BUDGET VARIANCE REPORT
 FOR PERIOD ENDING MARCH 31, 2015

DIVISION	ACTUAL	BUDGET	VARIANCE	% CHANGE
BUSINESS DIVISION	7,580,458	7,513,096	67,362	0.90%
INTEGRATED RESOURCES AND PLANNING	811,415	1,053,491	(242,076)	-22.98%
ENGINEERING AND OPERATIONS	3,853,908	3,665,438	188,470	5.14%
FACILITY	3,544,561	3,522,689	21,872	0.62%
GENERAL MANAGER	580,035	618,238	(38,203)	-6.18%
SUB-TOTAL	16,370,378	16,372,953	(2,575)	-0.02%
PURCHASED POWER CAPACITY	12,825,378	12,255,551	569,827	4.65%
PURCHASED POWER TRANSMISSION	9,161,648	9,225,465	(63,817)	-0.69%
PURCHASED POWER FUEL	25,972,228	29,197,957	(3,225,729)	-11.05%
TOTAL	<u>64,329,632</u>	<u>67,051,926</u>	<u>(2,722,294)</u>	-4.06%

TOWN OF READING MUNICIPAL LIGHT DEPARTMENT
RATE COMPARISONS READING & SURROUNDING TOWNS

April-15

	RESIDENTIAL 750 kWh's	RESIDENTIAL-TOU 1500 kWh's 75/25 Split	RES. HOT WATER 1000 kWh's	COMMERCIAL 7,300 kWh's 25,000 kW Demand	SMALL COMMERCIAL 1,080 kWh's 10,000 kW Demand	SCHOOL RATE 35000 kWh's 130.5 kW Demand	INDUSTRIAL - TOU 109,500 kWh's 250,000 kW Demand 80/20 Split
READING MUNICIPAL LIGHT DEPT.							
TOTAL BILL	\$99.19	\$172.37	\$121.54	\$900.70	\$174.92	\$4,200.60	\$682,279.59
PER KWH CHARGE	\$0.13226	\$0.11491	\$0.12154	\$0.12338	\$0.16196	\$0.12002	\$0.09917
NATIONAL GRID							
TOTAL BILL	\$180.85	\$360.39	\$241.13	\$1,742.04	\$252.35	\$6,955.02	\$1,223,765.00
PER KWH CHARGE	\$0.24114	\$0.24026	\$0.24113	\$0.23864	\$0.23366	\$0.19871	\$0.17788
% DIFFERENCE	82.32%	109.08%	98.39%	93.41%	44.27%	65.57%	79.36%
EVERSOURCE(NSTAR)							
TOTAL BILL	\$181.43	\$330.66	\$239.76	\$1,471.77	\$231.79	\$7,684.44	\$1,683,252.22
PER KWH CHARGE	\$0.24190	\$0.22044	\$0.23976	\$0.20161	\$0.21462	\$0.21956	\$0.24467
% DIFFERENCE	82.90%	91.83%	97.26%	63.40%	32.51%	82.94%	146.71%
PEABODY MUNICIPAL LIGHT PLANT							
TOTAL BILL	\$90.35	\$174.60	\$118.43	\$947.57	\$146.69	\$4,686.48	\$634,952.17
PER KWH CHARGE	\$0.12046	\$0.11640	\$0.11843	\$0.12980	\$0.13583	\$0.13390	\$0.09229
% DIFFERENCE	-8.92%	1.30%	-2.56%	5.20%	-16.14%	11.57%	-6.94%
MIDDLETON MUNICIPAL LIGHT DEPT.							
TOTAL BILL	\$99.77	\$198.39	\$132.64	\$959.51	\$168.44	\$4,762.93	\$807,171.40
PER KWH CHARGE	\$0.13303	\$0.13226	\$0.13264	\$0.13144	\$0.15596	\$0.13608	\$0.11733
% DIFFERENCE	0.58%	15.09%	9.13%	6.53%	-3.71%	13.39%	18.31%
WAKEFIELD MUNICIPAL LIGHT DEPT.							
TOTAL BILL	\$126.74	\$235.92	\$159.38	\$1,202.79	\$191.68	\$5,648.08	\$955,959.30
PER KWH CHARGE	\$0.16898	\$0.15728	\$0.15938	\$0.16477	\$0.17749	\$0.16137	\$0.13896
% DIFFERENCE	27.77%	36.87%	31.13%	33.54%	9.59%	34.46%	40.11%

TOWN OF READING MUNICIPAL LIGHT DEPARTMENT
 RATE COMPARISONS READING & SURROUNDING TOWNS

May-15

	RESIDENTIAL 750 kWh's	RESIDENTIAL-TOU 1500 kWh's 75/25 Split	RES. HOT WATER 1000 kWh's	COMMERCIAL 7,300 kWh's 25,000 kW Demand	SMALL COMMERCIAL 1,080 kWh's 10,000 kW Demand	SCHOOL RATE 35000 kWh's 130.5 kW Demand	INDUSTRIAL - TOU 109,500 kWh's 250,000 kW Demand 80/20 Split
READING MUNICIPAL LIGHT DEPT.							
TOTAL BILL	\$101.28	\$176.54	\$124.32	\$937.20	\$180.32	\$4,375.60	\$716,677.59
PER KWH CHARGE	\$0.13504	\$0.11769	\$0.12432	\$0.12838	\$0.16696	\$0.12502	\$0.10417
NATIONAL GRID							
TOTAL BILL	\$128.23	\$242.61	\$170.97	\$1,284.84	\$184.71	\$5,026.87	\$843,563.59
PER KWH CHARGE	\$0.17098	\$0.16174	\$0.17097	\$0.17601	\$0.17103	\$0.14362	\$0.12262
% DIFFERENCE	26.61%	37.43%	37.52%	37.09%	2.44%	14.88%	17.70%
EVERSOURCE(NSTAR)							
TOTAL BILL	\$180.21	\$328.23	\$238.13	\$1,471.77	\$231.79	\$7,684.44	\$804,039.34
PER KWH CHARGE	\$0.24027	\$0.21882	\$0.23813	\$0.20161	\$0.21462	\$0.21956	\$0.11687
% DIFFERENCE	77.93%	85.93%	91.54%	57.04%	28.55%	75.62%	12.19%
PEABODY MUNICIPAL LIGHT PLANT							
TOTAL BILL	\$90.35	\$174.60	\$118.43	\$947.57	\$146.69	\$4,686.48	\$634,952.17
PER KWH CHARGE	\$0.12046	\$0.11640	\$0.11843	\$0.12980	\$0.13583	\$0.13390	\$0.09229
% DIFFERENCE	-10.79%	-1.10%	-4.74%	1.11%	-18.65%	7.10%	-11.40%
MIDDLETON MUNICIPAL LIGHT DEPT.							
TOTAL BILL	\$99.77	\$198.39	\$132.64	\$959.51	\$168.44	\$4,762.93	\$807,171.40
PER KWH CHARGE	\$0.13303	\$0.13226	\$0.13264	\$0.13144	\$0.15596	\$0.13608	\$0.11733
% DIFFERENCE	-1.49%	12.38%	6.69%	2.38%	-6.59%	8.85%	12.63%
WAKEFIELD MUNICIPAL LIGHT DEPT.							
TOTAL BILL	\$126.74	\$235.92	\$159.38	\$1,202.79	\$191.68	\$5,648.08	\$955,959.30
PER KWH CHARGE	\$0.16898	\$0.15728	\$0.15938	\$0.16477	\$0.17749	\$0.16137	\$0.13896
% DIFFERENCE	25.14%	33.64%	28.20%	28.34%	6.30%	29.08%	33.39%

Jeanne Foti

From: Jeanne Foti
Sent: Tuesday, May 05, 2015 1:12 PM
To: RMLD Board Members Group
Subject: Account Payable Warrant and Payroll

Good afternoon.

In an effort to save paper, the following timeframes had no Account Payable and Payroll questions.

Account Payable Warrant – No Questions

March 20, March 27, April 3, April 10, April 17, April 24 and May 1.

Payroll – No Questions

March 23 and April 6.

This e-mail will be printed for the Board Packet for the RMLD Board meeting on May 14, 2015.

Jeanne Foti
Reading Municipal Light Department
Executive Assistant
230 Ash Street
Reading, MA 01867

781-942-6434 Phone
781-942-2409 Fax

Please consider the environment before printing this e-mail.

Jeanne Foti

From: Coleen O'Brien
Sent: Friday, April 24, 2015 9:56 AM
To: Tom O'Rourke
Cc: Dave Hennessy; David Talbot; John Stempeck; Phil Pacino; Jeanne Foti
Subject: Payroll Questions

Categories: Blue Category

Good morning Tom:

The following are Comments/Questions from Commissioner O'Rourke:

1. What is OT High Class?

Overtime High Class is when an employee works overtime at a higher classification. The base pay used in the FLSA overtime calculation is at the higher classification rate. On this payroll dated 4/24/15, there were two employees receiving higher class overtime; one who is a 1st class lineman level 1C was covering as a T-man at level T2, the second who was covering as a Leader Lineman at level L2.

2. Seems to be a fair amount OT?

The OT for the past weekend included: 1) Mandatory OT per contract for Saturday and (2) Contractor paid OT for Fiber installation. This is a paid OT by Light Tower to install fiber cable for their use.

Thank you,

Coleen M. O'Brien
General Manager
Reading Municipal Light Department
230 Ash Street
Reading, MA 01867

Jeanne Foti

From: Coleen O'Brien
Sent: Tuesday, May 05, 2015 2:31 PM
To: Tom O'Rourke
Cc: Dave Hennessy; David Talbot; John Stempeck; Phil Pacino; Jeanne Foti
Subject: Payroll Question - Monday, May 4, 2015

Categories: Blue Category

Payroll question on pay date 5/8/15.

1. How do you arrive at RMLD employee overtime hourly rate of \$ 100.78

Fair Labor Standard Act (FLSA) incorporates any Shift pay and Stand By pay during the week along with any longevity, clothing and boot allowances (paid through payroll) on a yearly basis. This is added to the employee's base hourly rate before computing their overtime rate. On the Patriot day holiday week, the employee was on Standby B, which is 16 hours of regular pay. This added \$ 19.124 to his base pay before overtime. The employee's yearly longevity pay is \$ 525 which added \$.2524 to his base pay of \$ 47.81.

$\$ 47.81 + \$19.124 + \$0.2524 = \$ 67.1864 \times 1.5 = \$ 100.7796.$

Thank you,

Coleen

