



Town of Reading Meeting Minutes

Board - Committee - Commission - Council:

RMLD Citizens Advisory Board

Date: 2015-02-11

Time: 6:30 PM

Building: Reading Municipal Light Building

Location: Winfred Spurr Audio Visual Room

Address: 230 Ash Street

Purpose: Regular Meeting

Session: General Session

Attendees: **Members - Present:**

Mr. George Hooper, Chair (Wilmington); Mr. David Nelson, Vice Chair (Lynnfield); Mr. David Mancuso, Secretary (Reading) Mr. Mark Chrisos (North Reading); Mr. Dennis Kelley (Wilmington)

Members - Not Present:

None

Others Present:

Mr. Dave Talbot, RMLD Board of Commissioners
Ms. Coleen O'Brien, Mr. Hamid Jaffari, Ms. Jane Parenteau,
Ms. Kathleen Rybak

Minutes Respectfully Submitted By: Mr. David Mancuso, Secretary 

Topics of Discussion:

1. Call Meeting to Order – G. Hooper, Chair

Chair Hooper called the meeting of the Citizens' Advisory Board to order at 6:30 p.m. and noted that the meeting was being audio recorded.

2. Approval of Minutes – G. Hooper, Chair:

Materials: Draft May 8, 2014, Minutes and Draft November 19, 2014, Minutes

Mr. Nelson made a motion that the Citizens' Advisory Board approve the Minutes of the May 8, 2014, meeting as written, seconded by Mr. Chrisos. Hearing no further discussion, **Motion carried 5:0:0** (5 in favor, 0 opposed, 0 absent).

Mr. Nelson made a motion that the that the Citizens' Advisory Board approve the minutes of the November 19, 2014, meeting as written, seconded by Mr. Mancuso. Hearing no further discussion, **Motion carried 5:0:0** (5 in favor, 0 opposed, 0 absent).

3. Storm Feedback – C. O'Brien, General Manager

Ms. O'Brien reported that there were no outages during all of the recent storms. Ms. O'Brien asked if there were any issues coming from the towns. CAB members did not report any significant issues.

4. Tangent "Lunch & Learn" Event - J. Parenteau, Director of Integrated Resources

Materials: Peak Demand Reduction Program Overview dated February 2015

Ms. Parenteau reported that on January 20, RMLD and Tangent hosted sixteen commercial customers for a "Lunch & Learn" program. RMLD has been developing its Peak Demand Reduction Program since June with the goal to manage future capacity

and transmission peaks on a monthly basis. Twenty commercial customers have signed up for this program, which provides hands-on information about what customers should be doing in order to achieve some load reduction.

Ms. Parenteau reviewed the slide presentation provided, which gives a high-level overview of RMLD's commercial programs and what was discussed at the "Lunch & Learn" session. The area electric rate comparison (Slide 2) illustrates that RMLD's rates are very competitive. RMLD offers two energy efficiency programs – a Commercial Energy Initiative Program (CEIP), which is currently capped at \$50,000 (based on peak reduction), and a Commercial Lighting Rebate Program (CLRP), capped at \$10,000, or \$15,000 for municipals. RMLD is working on some new programs as well. Electric Vehicle Charging Stations (EVCS) have been installed in North Reading and Wilmington and another is being installed on upper-Ballardvale in Wilmington. Mr. Chrisos asked if the charging stations were being used. Ms. Parenteau responded that Analog has installed three dual charging stations (through Chargepoint). RMLD owns the charging stations at that site and monitors use. The stations have only been in use since the middle of January so we have limited data. We have a pilot rate per kilowatt-hour. Teledyne in North Reading and Osram in Wilmington will each be putting in three Chargepoint systems. Ms. Parenteau noted that this is a good revenue source for RMLD. However, we need more data on the use (rate) in order to ensure that we recover the capital cost of the equipment.

Ms. Parenteau noted that capacity and transmission costs are projected to increase significantly and reviewed some of the factors driving these increases. Any programs that RMLD develops to manage these costs will help the overall wholesale supply costs. The Peak Demand Reduction Program allows RMLD to share savings (or the cost of the reduction in the peak demand) for both capacity and transmission with customers who participate. The capacity period happens one time a year – usually in the summer. Once RMLD determines what that peak was and the amount of reduction (if a customer participates and is able to reduce), the customer would receive that credit for the next twelve months. On the transmission side, there is a monthly peak. RMLD notifies the customers of the anticipated peak transmission time. As an example, between the hours of five and seven, RMLD estimates the peak is going to occur; if customers participate, any reduction is helpful and to their advantage. It is voluntary and there is no penalty if the customer is not able to participate. Ms. Parenteau reviewed examples of potential savings (Slide 4). Mr. Mancuso asked how RMLD verifies compliance. Ms. Parenteau responded that RMLD uses the same measurements that the ISO uses – 90% of the previous ten-day hourly loads and 10% of the current day. This is the baseline, which is measured through the meters (with 15-minute reads). RMLD does not want customers to ramp-up (when they get notified), and then drop when the time comes thinking they will get that savings.

Ms. Parenteau reviewed (Slide 5) the typical load mix (HVAC, lighting, etc.) for various types of businesses. RMLD works with customers to look at various load curtailment applications and what the customer can do to reduce their load/costs. The Tangent dashboard allows customers to look at different scenarios, i.e., "If I do this, what's the effect?" Ms. Parenteau reviewed some typical load shedding scenarios and the data available through the Tangent dashboard. Customers have more tools to be able to participate in a very educated format to achieve savings for their company. Ms. Parenteau noted that Mr. Ollila is doing a great job implementing the program. The "Lunch & Learn" was very well received, and we hope to repeat it quarterly.

Mr. Nelson asked if the towns were involved in this program. Ms. Parenteau responded that Reading and North Reading have signed up. Wilmington has been very busy with their new high school, but they have been updated on the program. Lynnfield has not yet participated. Ms. O'Brien noted that Mr. Ollila would invite customers, including the towns/schools, to come in so that they can be part of the quarterly workshops. Ms. Parenteau noted that Mr. Ollila would also go out to customers, explain the program and work with customers.

Mr. Chrisos asked about the new North Reading High School and any technology they have installed. Ms. Parenteau noted that the school personnel is very excited about this program and with the building management system; we think there are definitely opportunities for them to save. Mr. Chrisos asked about the availability of low cost loans (for commercial customers to replace equipment) or other programs through RMLD. Ms. Parenteau responded that RMLD does not have loans, but does work with customers to develop rebates based on the amount of kilowatt reduction.

Mr. Talbot asked if there were a way to push the reduction notifications out to the general public. Ms. O'Brien noted that RMLD met with the police and fire departments from each of the towns. Both the ISO New England power warning/cautions and the peak shaving were presented. The towns agreed to use reverse 911 for the power warnings, but did not consider peak shaving to be an emergency. The RMLD business office is starting to put together our own databases to be able to send out blast texts or some other means of communication. The group discussed various means of mass communication including, reverse 911, twitter and other social media.

5. 500 CLUB/RF Mesh AMI System – H. Jaffari, Director of Engineering & Operations

Mr. Jaffari presented information regarding the RF Mesh AMI system, which was recently approved by the Board. The Itron AMI system currently in place is a one-and-a-half way AMR (automated meter reading) system and has limited capability as of today's technology. Today's metering is not just for meter reading or billing purposes; there are more functionalities such as monitoring load data in the house (to implement peak reduction techniques) and communication functions for notifying customers about outages or system troubles.

When looking at replacement meters for the sixty-five, 500 Club customers (commercial/industrial customers using 500 kVA or more), Itron could not provide an inexpensive solution. Therefore, RMLD started looking into where the current technology is, and what we could get in order to maintain the current infrastructure and move onto the next generation of meters and technology. We began looking into RF mesh networking which is a 900 megahertz frequency spectrum; the channel of the data is 300 kilobits per second, which means you can get lots of data passing through these channels using frequency hopping technology.

The new system is made up of three major components: (1) the meter, which is independent of the system and made for the next generation of AMI through a two-way fixed network system; (2) the capacity to implement demand response; and (3) the capacity to bring data back from the field to the SCADA system (in order to implement grid optimization or smart grid). RMLD wanted to invest in infrastructure that not only addresses the deficiencies of the Itron system, but also looks at future capabilities (10-20 years ahead). A team including Integrated Resources, MIS and Engineering was established to research the technology. A comprehensive RFP was prepared for an RF Mesh AMI system. Two companies responded and Eaton-Cooper was the successful bidder for under \$200,000.

This system has the capability to expand the network. For any Itron meter, that we have problems with, we can remove the ERT module and install their electronic interface. The meter then joins the network you have two-way communication. RMLD will be able to read end of the line voltage (important for outage management and other functionalities of the distribution automation), kilowatt-hours, kVar, and power factor – parameters that Itron is incapable of providing due to hardware limitations.

Mr. Jaffari explained how data is passed from the meters through the mesh network and back to the RMLD network - the backhaul for the communication system. The data then comes back to the headend software (Yukon). Mr. Jaffari noted that RMLD is the

first municipal in Massachusetts that is adopting this system. This headend software is a mini MDM (meter data management) system, which means data is organized for use by different hosts or servers with direct connections. The data is not going to get mixed and the processing is going to be faster. Rather than the server pulling the data from the headend server (where the data is mismatched), the system knows exactly where it needs to extract the data required for the various functionalities. All the meter data are collected to the Yukon including data from those Itron meters that are retrofitted. Additionally, we are going to have direct connection from the Yukon server to the Itron server. There are two ways to receive the (Itron) data – one from the field to the fixed network or from the Itron server.

Mr. Jaffari reviewed some of the future capabilities this data system will accommodate including distribution automation, demand response, distributed generation, outage management, power factor corrections, FDIR (fault detection isolation registration). The system is capable of addressing the current deficiencies of the Itron system and it is IP based for future capabilities. It is a good investment for the future and a strong foundation to move toward the smart grid. RMLD has prepared a roadmap (looking out 10-20 years) in order to make sure that RMLD does not have any redundancies and invests where we should invest. Mr. Jaffari spoke about how some of the future planning will be integrated. Gradually, all the pieces come together until we have the complete picture.

Mr. Nelson asked how efficient their technology is as five, 10, 15 years go by; are they going to update RMLD with new things? Mr. Jaffari responded, yes the updates as of now are going to be free. RMLD will own the server and the software. Mr. Jaffari noted most companies host the data outside, which allows the third party access to customer database. RMLD is going to maintain the data in-house, which will be more work, but RMLD will have complete control. Additionally, RMLD is working with NDimensions for a cyber security system. The system is very smart and can be configured into multiple layers. We determine what type of security we want for each type of application.

Mr. Hooper commented that a lot of information was presented. With technology, especially where you are buying into this, you want to make sure how it's trending – make sure it's sustainable – especially where you are going with these different software and tools that are going to be valuable not only to you, but to all of us. That's the thing to be careful about – how do you pick which way you are going to go?

Ms. O'Brien responded that that was the problem with the Itron meter system that was selected prior to her hire. There was no short or long-term integrated plan. There was no thought process about what it was going to be used for and whether or not it would sustain and have non-proprietary software attached to it going out ten years. There are certain Itron meters that cannot talk to the fixed network. When we put this mesh network in for the 500 Club, modules will be put into those meters so we will not need to have a meter reader ride around anymore. Everything that we are thinking about in this roadmap is moving towards helping the customer, and energy conservation and reduction. However, what you are cautioning us – that is why we are looking ahead on everything to make sure that we are ahead of it.

Mr. Jaffari continued, for every device that RMLD selects, the manufacturer needs to meet the IEEE multi-speak requirements to insure successful integration with RMLD systems, without giving away these manufacturer's source data. That means this data comes to a pool - everything is there for distribution. If its multi-speak, you can tap into that and get the data. Another technology is SOAs (Service Oriented Architecture) or ESB (Enterprise Service Bus) which is the super data super highway. If the system is multi-speak and you have an ESB, you design the interfaces. That is going to drive any system that RMLD buys. The two things RMLD will look at are: (1) is it multi-speak? If it is, RMLD can do business; (2) can the vendor accommodate the requirements for interface as stated in the bid?

Mr. Kelly asked how old the Itron system is and what it cost? Mr. Jaffari responded, that he believes (he was not at RMLD when it was purchased) it is 4-5 years old and cost \$3m. Ms. O'Brien added that it is a fixed network, one-and-a-half way communication which means you cannot send the data going the other way, and you cannot get variables; you could not get voltage at the end of the line, and if you cannot get the voltage at the end of the line, there are many things you cannot do. The system when purchased was obsolete. Mr. Kelley responded that it sounds like RMLD is approaching this in the right way for the future and how to fill the gaps.

Ms. O'Brien responded that (the fixed network) is going to stay intact. We are going to pick certain meters at the end of each line and change the module in those. We do not want to waste the money (already spent), but we do have to make it work. This was the least expensive way to get it to work and to get the large customers on board with the two-way communications so we can do the demand response programs and be able to get outage management. Additionally, in the future, we want to be able to communicate with our customers. Mr. Jaffari added that was the goal – without scrapping the current technology we have - looking for a system that could fix the deficiencies. The meters, as they migrate toward the future, are independent of the system and RMLD can pick pretty much any meter. Therefore, when RMLD goes out to bid, we are going to get the best price and best available for the meters.

Mr. Kelly asked about the price of the Yukon software to others. Mr. Jaffari responded that he was not sure. However, with the other fixed AMI networks, they charge between \$100,000 to \$200,000 for owning the software. Mr. Kelley asked about upgrades every year. Mr. Jaffari responded that the upgrades, to the best of his knowledge and what they have said, they automatically provide that free. That was one of the questions in the evaluations: Are we going to get the software upgrades? Mr. Jaffari noted that RMLD would have to pay for the maintenance (regardless of whom we buy from). Mr. Jaffari added once the GIS is fixed and is joining this network, RMLD will be able to do pretty much everything a good utility could use for bringing data back and processing it. The goal is for us to reach the customers and know the trouble before the customer even calls. Mr. Nelson asked if RMLD wants to do away with all low voltage calls. Ms. O'Brien responded that we have mandated voltage reductions that we cannot even participate in because the end-of-the-line voltage is too low.

Mr. Mancuso asked about the roadmap. You said there is an initial investment of \$200k to target the 500 Club, and that has the 3-5 year ROI? Mr. Jaffari responded that there are a number of programs – RMLD will spend anywhere from \$150,000 to \$200,000 per year to build the system. Ms. O'Brien clarified, that the things that have been approved in the budget are fixing the GIS and the 500 Club Meters (which includes addressing the deficiencies in the existing Itron meter system fixed network, the mesh network, and the 500 Club meters). RMLD is creating a roadmap for those long-term plans. The Reliability Study (Booth) is looking at our roadmap so that we can have a nice sounding board. However, nothing else on that roadmap has been approved. Pieces of the distributed automation have been budgeted. This is 20-year plan going out and we are trying to show how it all fits together.

Mr. Kelley asked about the impact of load shedding on revenue. Ms. O'Brien responded that it is targeted during peak because the price signals are so high. Mr. Kelley continued, by upgrading the system over the next 10-20 years – it gives you more control and you will be able to manage your costs internally better and more efficiently. Is that the plan - to help with your power supply costs as well as your maintenance costs? Overhead should drop as well. Ms. O'Brien agreed; and reduce outages – when people are out of power, they are not using electricity. The quicker you can get them back on, the quicker they are using electricity.

Mr. Talbot asked, what's the most it ever costs on the worst, hottest part of the worse day of the year - what are we paying for an hour of electricity? Ms. Parenteau

responded, it all depends what we have that is running within our portfolio, but pricing can run \$800 up to \$1,000 per megawatt hour for that hour. Mr. Talbot continued, so that would be up to \$0.80 per kilowatt hour. Just for a frame of reference - we are charging people \$0.09, and at some moments, we are paying \$0.80. Ms. O'Brien responded, depending on what generators are operating. I've seen it spike as high as thousands and thousands of dollars because you had Seabrook and Millstone down. Your supply and demand will really crank up with your spot market prices. Mr. Talbot noted, someday - maybe way into the future, maybe we can charge people what it's actually costing us to provide power - real time pricing. People will quickly learn when to shut the AC off, but that is decades away.

6. Solar Power at Public Buildings - G. Hooper, Chair

Chair Hooper asked for input from staff and other CAB members on how they are addressing solar power generation within the communities (including public buildings) and the questions that come up around these programs.

Ms. O'Brien noted that RMLD is in the research phase of purchase power agreements with developers that are building solar. Right now, the cost is way down because of the RECs; if the RECs were not there you would not be able to afford solar. Getting into the ownership of solar is something that RMLD is looking at cautiously. Ms. Parenteau noted that a big caveat is deregulation. If RMLD allows third party vendors to come in and start supplying power to towns and our customers, we are opening up our system and they can come in and start picking off our large customers, which has a huge effect on our overall power supply. The Board voted for RMLD to remain regulated, so we are not subject to that de-regulation. RMLD will work with customers. If they want to invest in the capital and they have the money, they are welcome to do that - RMLD has a net metering rate. RMLD is trying to develop resources within the towns so that everybody benefits. We are working on a project in Wilmington where the commercial customer is getting a lease payment from the developer, RMLD is buying the off-take of the solar, and the developer is taking the SRECs and the energy that RMLD is providing in the form of a purchase power agreement (PPA). The town gets a PILOT (payment in lieu of taxes). It is a four-way business model that can work. Ms. Parenteau noted that a third party vendor coming in and selling power, in the long-run, is not cost effective. It works in the investor-owned utilities where the rates are 50% higher than at RMLD. If we were to do that, our rates would be going up for everyone else. Mr. Hooper comment that currently, we would only be leasing roof space, so that, basically, is what we would get (similar to the cell towers). It was noted that all communities are facing the same situations.

Mr. Chrisos noted (in full disclosure) that he is a solar developer for Con Edison Development and has worked with many municipals in Massachusetts. Mr. Chrisos spoke about some of the advantages of solar developments for the municipals including: a 20-year agreement for a low fixed rate (in the vicinity of \$0.05). That is just a delivery rate - not transmission; a revenue stream for the town in the form of a PILOT agreement from the developer (another 20-year agreement); limited maintenance. If the landowner is a private entity, they get a lease payment. Overall, in large scale, it is very good, but it does disrupt the system. It is a very complex model.

Mr. Chrisos continued (as mentioned) SRECs are the underpinning, which are basically a subsidy by the DOER (Department of Energy Resources). It is a ten-year program and assures that you get ten years of SRECS, but in the eleventh year it is a fall-off for the developer. SRECs are a (state) budget issue and with the new administration, we don't know where it's going. In the right circumstances it's a very good program, but you have to be very careful because there are so many moving parts that someone might not make out great, whether it's the developer, the town, the muni or the land owner.

Mr. Hooper responded we understand it, but we're trying to relay that to the residents of the Town. They see solar panels - free power - we're going to get a reduction. Mr. Chrisos noted that residential solar is a complex issue and there are many uncertainties; it is very expensive for the homeowner to install.

Mr. Kelly added that people in Wilmington see some large older buildings with no mechanicals on it and think that's where it all belongs. It comes up constantly - why aren't we doing more? One of the answers is that we have a power purchase agreement with RMLD for 20 years so we buy our power from them. In some ways, maybe it's the right thing for us to do on a building or two, and RMLD gets the energy - try to figure out that benefit to the town and making sure it is a benefit so that five years from now we don't say we shouldn't have done that.

Ms. Parenteau noted that in order to address some of that, RMLD is trying to explore ways to develop community solar so that people who are interested in it and don't want to put holes in their roof can contribute. However, that model is very difficult. RMLD is trying to determine if it is something that would be of interest as an alternative to our Green Choice program.

Chair Hooper, added maybe that's something in the communities that we can also approach - go to the public entities and say, with a combined effort, we can do these types of community solar farms.

Mr. Talbot noted that at the last Commissioners' meeting it was on the agenda, as a first step, looking into whether there is little-used, publicly-owned land that could be utilized. Mr. Talbot noted that it is great to know that there is a solar developer on the CAB. It would be great to have that input to tell the Board and the Department, if we had a site, what the model would be for us. Mr. Talbot asked for Mr. Chrisos' input on what he should do as a Board member on the RMLD.

The group discussed the current allocation of SRECS and the challenges in finding an appropriate site (with consideration for Brownfields, Greenfields, etc.) to build large scale solar. Mr. Talbot asked Mr. Chrisos to provide a memo on what RMLD should do that would be economical; what are the first steps as a Board. Whatever your bottom line advice is, including do nothing. Mr. Talbot noted he hears from people in the community - why are we not doing something. Mr. Kelley commented that there are people of the viewpoint that it is just the right thing to do - why wouldn't we have something instead of nothing.

Mr. Chrisos stated that last December, the last version of the energy act in the State House (which did not pass), would have excluded municipals. That bill was written, so what that means is if that passes (and tomorrow there is another workshop that this is another bill coming through) that would mean that the ability to garnish SRECs is gone for municipals. The logic is that investor-owned utilities are supposed to take that money back and use it for thing. The investor-owned utilities will ask why should the municipals get the SRECs - they are not doing anything to distribute the system. Mr. Talbot noted that we could appeal to our state senator on these issues.

Mr. Chrisos agreed to put some thoughts together for Mr. Talbot to send around to the other Commissioners. Ms. O'Brien asked for clarification. Are you looking to offset the costs of the transmission and capacity increases with just green solar or with anything. Mr. Talbot responded, no. I believe PV is close to grid parity especially with the RECs. I think there is a need for cleaner energy in our system and throughout the country and world. We should do our part if it is economical to do. If the answer to why we do not do it were because it is complicated or we haven't found a site, then my answer would be then let's find a site and let's work through the complexities. We have the expertise on the Board - let's figure out how to do it. I think we should have cleaner energy in our system and if it is economical to do, I would like to find a way to do it. I am sure it

is harder than what we do now, but that does not necessarily mean it should not be done – it does not even necessarily mean it is more expensive.

Mr. Chrisos noted that he and Ms. Parenteau have discussed the costs of all fuel mixes, whether its solar, micro turbines, or negotiating agreements – it is a big pie and you have to take slices out. To do that, you have to be innovative in where you are focusing time. Usually a developer would come in with an identified site and they want to sell an offtake. It is much easier when a developer spends the time and effort. To go out as a Board or as RMLD to look is very difficult – you have to know what you are looking for. Mr. Chrisos questioned whether people are willing to pay more money for green energy. Some people are and some are not - that is a discussion that is needed. Solar is coming down in price, but it is still the most expensive form of energy.

7. Report from January Board of Commissioners Meeting – D. Nelson, Vice Chair

Mr. Nelson stated that he did attend the January meeting and had nothing of note to report. Mr. Nelson mentioned that he had requested this item for the Agenda, but his intent may have been misunderstood. His purpose in adding this to the Agenda was to provide a trigger to ask the Commission representative to the CAB if they had any comments or updates.

8. CAB Coverage for 2015 – G. Hooper, Chair

The CAB coverage schedule for the 2015 Board of Commissioners meetings was set.

9. Next Meeting – G. Hooper, Chair

The next CAB meeting was set for March 11, 2015, at 6:30 p.m.

10. Motion to Adjourn – G. Hooper, Chair

Mr. Nelson made a **Motion** to adjourn the Citizens' Advisory Board meeting, seconded by Mr. Kelley. Hearing no further discussion, **Motion carried 5:0:0 (5 in favor, 0 opposed, 0 absent).**

The Citizens' Advisory Board Meeting adjourned at 7:58 p.m.

As approved on October 21, 2015.