

LYNDONVILLE ELECTRIC DEPARTMENT
YEAR END REPORT

To the Board of Trustees and citizens of the Village of Lyndonville, Vermont.

With the passing of 2014, the Lyndonville Electric Department (LED) has completed its 118th year of providing electric energy and maintaining electric service to Lyndonville residences and businesses. It seems like only yesterday that we were putting the finishing touches on last year's report and lo and behold, it is time to take pen (keyboard) in hand and reflect back on last year.

I would like to begin this year's report with a discussion surrounding the refurbishing of the small 400 kW generating unit at Vail Hydro Station. At a regularly held bi-weekly Board of Trustees meeting held on June 23rd, I advised the Trustees that we had received three replies to a Request for Proposal (RFP) we sent out earlier that year that gave the scope of work needed to repair/rebuild the Vail generating unit. We had received three bid proposals in response and they were as follows, 1.) Schulz Group, \$244,212, 2.) Power House Systems, \$311,201, and 3.) Fairbanks Mills, \$330,310.

After receiving the proposals, we contacted three local Banks and asked them if they'd be interested in doing a local financing of the project based on the amount of the highest bid. We received three responses and all were interested in doing the financing. We then submitted the information received from the banks to the Vermont Public Power Supply Authority (VPPSA) and asked them to do an economic analysis based on the highest of the bids received and the highest interest rate received (worst case scenario) and found that the net revenue gain to LED would be about \$53,000 annually. This was based on an estimated annual kilowatt hour output of 1.6 million kWh's and that estimate was based on going back to 1976 that showed the unit produced about 1.9 million kWh's annually for a twenty year period when the unit was running well from 1976 to 1999. I advised the Board that VPPSA had also pointed out that there may be additional revenues gained through Renewable Energy Credits (REC's), but that I didn't want to assign any credit to them because there was no specific guarantee.

I recommended to the Board that they authorize me to enter in project discussions with Fairbanks Mills and to sign an agreement with Fairbanks Mills if everything is satisfactory. I acknowledged that Fairbanks was the highest of the three bids received and that they weren't necessarily apple for apple bid proposals. Fairbanks Mills appeared to be the most comprehensive and detailed of the three bids received. I explained that LED has had Fairbanks Mills do work on both Vail Hydro and Great Falls Hydro units in the past and were very pleased with their work. I also pointed out that hydro repair people are few and far between and that it is an advantage to have them located in St. Johnsbury. It was also mentioned that Fairbanks Mills has worked for every electric utility in Vermont with hydro units and they all have high regard for them.

At the July 21st bi-weekly Trustees meeting I advised them we had met with Bob Desrochers, Fairbanks Mills, the next day after the June 23rd meeting to solidify his bid proposal and we were at that point advised that we had misinterpreted his bid and that the amount of \$330,310 did not encompass all of his known repair/rebuild costs and that the cost might even exceed that if other damage is found once the unit is opened for inspection. At that point I asked Bob to prepare a revised bid proposal that included a range of costs with the low being the corrected

known repairs/rebuild cost that he had already submitted to an estimated not-to-exceed high cost if the worst is found inside the unit.

I advised them that Bob had presented a revised proposal at his request that gave a "best case - worst case" scenario for the Vail Hydro Station work to be done to put the unit back into working order. The best case scenario turned out to be the original total amount first presented to LED of \$401,740. This total is made up of the original thought to be total of \$330,310 and the unaccounted for addition of \$71,430 that should have been added to the total. The new second scenario was put together by projecting what would be the highest probable cost to rebuild the unit and that is \$640,040. I had e-mailed the revised proposal to the Trustees prior to the meeting and had it attached to the agenda for discussion purposes. I explained that the second scenario takes into account the possibility that everything turns out to be in the worst possible condition after being examined and needs to be totally rebuilt or replaced. It turns out that there is roughly a 60% difference between the best and worst case scenarios.

I explained that I had forwarded the new proposal to the power supply people at VPPSA and had asked them to do an economic analysis based now on the highest possible cost. I received back the second analysis and it showed that there was still a positive effect to LED's power costs even at the higher cost. I explained that VPPSA's analysis was based on only the debt service costs and did not include LED's operational costs to operate the hydro stations. LED's hydro expenses cover both Vail and Great Falls Station's and each are assigned one half of the cost. An average total cost for both stations over a five period is about \$120,000 annually. This means that Vail's annual average operational cost is about \$60,000 a year. I advised the Trustees that I wasn't asking them for their approval of the new proposal at this time because I wanted to have a chance to sit down with Bob again and go over this new best case - worst case proposal first to make sure there were no misunderstandings. I also mentioned that I would make contact with the submitter of the runner up proposal and discuss his proposal as a possible alternative.

At this point I mentioned to the Trustees for the first time that I'd like to discuss another option pertaining to the rebuilding and future operations of Vail Station with them. I told them that I had been contacted by Greg Cloutier, Ampersand Gilman Hydro, and had been asked if LED had ever considered entering into a long term Operational/ Maintenance Agreement (O&M Agreement) with a second party for both Vail and Great Falls Hydro Station. I advised them that I had told Greg that I was open to the idea and if he had a rough draft of an agreement to send it along and that I'd bring it to the Trustees in Executive session for further potential Contract/Agreement negotiations at the July 21st meeting. The Trustees gave their nod of approval.

On November 11th, Greg Cloutier, A.J. Goulding, Ampersand Gilman Hydro and Brian Callnan, VPPSA, and Bill Humphrey, LED Supt. and I met in our conference room for the first time to begin negotiations relating to their "Term Sheet" and the potential O&M Agreement in general. After some small talk and us meeting AJ for the first time, we went right to the "Term Sheet Option 2A" and AJ began going through it section by section. The term of the proposed Agreement is for a period of 25 years commencing on January 1, 2015 or upon receipt of all regulatory approval. In return for performing the O&M services and making such capital investments as it deems appropriate, Ampersand Lyndonville Hydro (ALH) shall be given title to the resulting power produced. One clarification was made that ALH shall not be responsible for

upkeep and maintenance of the "Red Building", but that at the Lyndonville Electric Departments ("LED") request, would do maintenance on a "time and material" basis.

The next section titled "Financing of capital improvements" stated that "LED shall provide Owner \$2.25 million to finance capital improvements to the Assets. ALH shall not be responsible for repayment of the Planned Amount, or payment of any interest thereupon". At this point I interrupted and said that I recalled the amount mentioned in correspondence leading up to this meeting was \$1.8 million and asked why the increase. The response was that Greg had revisited the sites and as the result of additional concerns, the amount was increased. AJ then directed our attention to the section titled "INDICATIVE PLANNED AMOUNT ALLOCATION" ("IPAA") and then started going through it to show how the \$2.25 million was derived.

At this point I asked "Are you saying that LED has to make \$2.25 million worth of General Capital Improvements ("GCI") to both sites before ALH will enter into an O&M Agreement with LED"? The response was sort of yes by clarifying that the improvements are needed in order to maximize the kWh production of the facilities so the O&M Agreement will be profitable. We then started to get into the "nuts and bolts" of the GCI issues. ALH's position is that they will not enter into an agreement with LED based on promises to perform. Their position is that they'd like all promises of GCI done (or monies borrowed and set aside in a restricted account) and paid for right off and not rest on the assurances of someone like myself to promise that they'd be done as needed.

I told them that I was very uncomfortable with doing it that way and particularly based on the numbers contained in the Term Sheet because they were based on Greg's own eyeball surface inspection. I explained that a substantial amount of the GCI monies had to do with concrete work and that I would feel more comfortable with bringing a structural engineer in and doing a concrete study of its integrity and what replacement and improvements needed to be done. Everyone agreed that would be the best approach, particularly if LED needs to do a GCI borrowing and it also has to pass regulatory scrutiny. I also pointed out other areas of the IPAA that included estimated monies for repair of items that hadn't been opened up and inspected to determine the true nature of the repair or replacement to be done. The GCI part of the Agreement took the lion's share of the three and one half hour meeting and several different scenarios were written on the chalk board and flushed out. I'm not sure if we came to a resolution or not.

At some point we began the discussion on the Purchased Power Agreement ("PPA"), Renewable Energy Credits ("REC"), and a PPA escalator. I had spent quite a bit of time with Brian Callnan, Vermont Public Power Supply Authority - Power Planning Manager, prior to this meeting discussing the purchased power cost to LED from ALH and what would be economically beneficial for us. Brian advised me that 2.9 cents was our target and that there should be some sort of escalator after the first three years and that REC's were a wild card. AJ's Term Sheet under "PPA price" was energy and capacity at a rate of 3.2 cents per kWh and on the anniversary of the commencement of the PPA, and annually thereafter, the PPA price shall escalate at 3%. As I recall, AJ's proposal was that LED would start to get a REC benefit if they exceed \$40.

Brian came back at AJ suggesting that he seriously reconsider agreeing to the 2.9 cents per kWh, a reduced escalator of zero for the first three years and then 2.25% for year four thru 25 and that LED gets 1/2 of the REC's benefits over \$10. An additional element was a floor price of

\$120,000 paid to AHL if the production year was limited due to a combination of low water and unexpected outages. Brian said that he thought that this would be a good deal for ALH and that it would be a good deal also for LED. AJ said that he'd take Brian's recommendations and get back to us.

I asked if ALH was interested in getting into more of a O&M Agreement for more or less just operating the hydro's and letting LED do the GCI on an ongoing basis as needed and agreed to and he said no. He said that ALH is entering into this Agreement to make money and have as little risk as possible. I agreed with him that certain GCI made sense to do right off to increase generation, such as hinged flash boards and trash rack cleaner at Vail and trash rack cleaner at Great Falls, but that other items were something that could be phased in over a period of time and financed over the same. Their response was still aimed at LED doing the GCI listed on the Term Sheet over a two year period with the bulk being done the first year. I replied that I still wasn't comfortable with that scenario.

To move off dead center, as I recall AJ came back with a scenario that ALH would take all of the GCI risk and fund them if LED was willing to start paying 5.0 cents to begin with. Brian and I looked at each other and I said that we'd have to rerun our numbers before I could even give him an initial response to his suggestion. At this point we had gone back and forth for about three and one half hours and things began to get a little testy. At this point we decided to break and get back to each other. Greg said he'd like a chance to revisit Great Falls and spend a little more time there.

I concluded by saying that LED is still under the FERC gun to do something at Vail Station to repair the unit and get it back on line. I asked Greg if he was still interested in just doing the turbine unit repair alone as he initially proposed and that we'd still operate as we have in the past. Greg said that they had recently purchased other hydro units and that it is a good possibility that they'd be spread too thin as the result of working on them and wouldn't have time to do our unit. He qualified that by saying that if we could iron out our differences on the O&M Agreement that he'd make the time to do the Vail repair. I told him that if needed, I'd have to revisit Fairbanks Mills and see if they were still interested in doing the Vail repair as an alternative. Greg said that he understood our position.

In summary, I wouldn't rule out us successfully negotiating an O&M Agreement with ALH, but I'm not as optimistic about it as I was. ALH is in to make money and really could care less if LED benefits or not. LED is in it to better our O&M program at both stations, increase generation if possible and have it an economic benefit to LED and its ratepayers. Can we meet in the middle and both mutually benefit from this mutual endeavor, time will tell. As I mentioned earlier, LED is obligated under our FERC license to generate kilowatt hours and we will repair the Vail unit one way or another and if we cannot come to an agreement on the O&M Agreement, we will continue to operate both hydro units as we have in the past.

The next item I'd like to touch on is one that has recently risen to the top, with that being Net Metering. Net Metering by way of Vermont Legislation and Public Service Board Rules and Regulations has been around since the late 90's and was initially intended to allow electric utility ratepayers to interconnect small renewable energy installations with their local electric utility. If the ratepayer was generating more than what their electric usage was that time, the utilities electric meter would reverse direction and start subtracting from the meters register. If the

ratepayer was using more energy than what they were generating at the time, the meter would run in a normal direction and add kilowatt hours (kWH's) to the meters register. If a ratepayer's annual generation turned out to be more than what they would have otherwise purchased from the electric utility, the utility would adjust the ratepayers account would go back to zero on December 31st and no exchange of money or future credit would be given. From the late 90's to 2014, LED had about 55 Net metered customers with a total of about 270 kW installed capacity.

From the late 90's through 2013 there was some small tweaking of the Net Metering Rules and Regulations, but on April 1, 2014, it was changed dramatically when the Governor signed new Net Metering Legislation into law. Up until that date, there was a preset 4% cap on the amount of Net Metering capacity allowed on an electric utilities system. The allowed Net Metering installed capacity was determined by either taking the utilities system demand peak in 1999 or the most current year, whichever was the highest, and multiplying that by 4%. In LED's case, that would be about 13,500 kilo-watts (kW's) X .04% = 540 kW. LED currently has about 55 Net Metered ratepayers and an installed capacity of about 270 kW.

The first part of Bill H.702 has two provisions in it that makes Net Metering dramatically different from way that it originally designed. Changes to the Net Metering that took effect on April 1st include, but limited to, 1.) Raising the 4 percent capacity cap from 4 percent to 15 percent of the utility's peak load, and 2.) Changing the 10-year "solar adder" incentive for larger projects. That means that any project less than or equal to 15 kW will retain the 20 cent solar adder benefit and for any project larger than 15 kW, the solar adder will be 19 cents, and 3.) Changing the 10-day registration to apply to systems of 15 kW or less, and Clarifying that customers maintain the Renewable Energy Credits (REC's) unless they choose to give them to the utility, who must then retire them, and 4.) At the discretion of the utility, enabling the development of municipality-serving solar projects up to 5 MW in size on closed landfills, and 5.) Enabling one 5 MW solar pilot project in each utility service area, at the discretion of the utility, and 6.) Requiring the Department of Public Service (DPS) to create and maintain a webpage with current metering program status.

The new legislation increased the cap from 4% to 15% and also created a mechanism that allowed Net Metering ratepayers a way of selling their generated kilowatt hours to the utility. The old method of the meter spinning in either direction did not give an accurate accounting of the actual kilowatt hours (kWH's) generated by the renewable source. The new legislation requires that a second meter be installed between the renewable generating source and the ratepayer's point of use to record kWH's generated. Now instead of everything going back to zero on December 31st and no money exchanging hands, the utility will pay to the Net Metered ratepayer 20 cents a kWH generated from installations 15 kW or smaller and 19 cents a kWH for installations over 15 kW. This money will offset and be credited towards all LED charges, including the Basic Charge.

The second part of the Bill requires the State, utilities, renewable energy stakeholders, energy policy experts and probably anyone else that has an interest in the subject to develop the next model of Net Metering. Over the next two years (2014-2015) during this workshop process, countless areas of energy policy are to be discussed. How should Renewable Energy Credits be treated? How should group Net-Metered systems be applied? What is the capacity of our current grid and utility infrastructure for moving away from the old energy model towards a new-energy model? What will be the requirements for connecting to the grid? As we move towards a system

where many people own their own generating system, how do we equitably share the cost of distribution and transmission lines? How does Vermont meet its energy goals and climate change statutory requirements?

Recently, LED was advised by a solar installation vendor that there had been meetings held with two of LED's largest customers where 500 kW installations had been discussed with them. The same vendor also mentioned that a third large ratepayer was also on the radar screen for a visit. Even more recently I was advised that a different vendor was meeting with interested parties associated with the St J./Lyndon Industrial Park about installing a 500 kW unit for them. So I think it's safe to say that it may be coming to our area on a large scale.

I would like to go on the record that both the Village Trustees and I support the development of renewable energy projects (Hydro, solar and wind). Anything that will reduce our dependency on fossil fuels and clean up the environment is good in our books. The major concern that we have is related to how and who pays to maintain and rebuild the utilities distribution and transmission infrastructure in the future. The best way to explain this is to use an example. If a residential ratepayer's solar installation of 15 KW produced annually 10,000 kWh's and by coincidence their total annual kWh usage is 10,000 kWh's, their annual cost/savings would be determined as follows. LED's cost to them for that 10,000 kWh's would be \$1,488.81 (12 X Basic Charge \$9.25 - 900 kWh's X 0.07399 - 9,100 X 0.14953). On the flip side, the ratepayer would be paid 20 cents per kWh for the 10,000 kWh's generated and that would amount to \$2,000, a difference of \$461.67 in the ratepayer's favor.

So what's wrong with that? There would be no problem if the solar installation was a stand alone unit, off the utility grid system. The problem arises when the ratepayer's solar installation doesn't match their load and they have to rely on the utilities grid to supply their power. Solar works well when the sun is shining and if there's a lot of it. Our systems highest demand and usage is during the winter months and that's generally true for most residential ratepayers. It's at that time that we receive the least amount of sun light due to the season and snow cover. It's at that time that most solar installation will take power from the utilities grid and based on the example that I gave, will not contribute anything toward the maintenance and general capital improvement of the utilities electrical infrastructure. That we feel is a problem because it puts the infrastructure upkeep on the backs of the ratepayers that do pay a utility rendered power bill. It's a problem and even the solar vendors I've spoken with recognize it to be one also.

Last year in my 2013 Village Report, I gave a fairly lengthy accounting about LED's involvement in the activity surrounding the Seneca Mountain Wind Project being sponsored by Eolian Renewables of Portsmouth, NH. It became a hot issue at about the time of the annual Village meeting and stayed hot for about two months after that. On July 26th Seneca Mountain Wind (Eolian) issued a statement saying that it had elected to cease development of the project. It had withdrawn a request to connect the project to the New England power grid and it had terminated all its leases in Newark, Brighton and Ferdinand where it had hoped to build the turbines. In May, Seneca Mountain's parent company Eolian had told the regional grid operator, ISO New England, that it was withdrawing its interconnection request. All monies spent by LED to fulfill our regulatory and statutory obligations to the project were reimbursed to us by Eolian Renewables.

LED relies on the Vermont Public Power Supply Authority (VPPSA) for its interaction with the Independent System Operator of New England (ISO-NE) and New England power markets. In addition to managing resources in the New England markets, VPPSA also explores new generation sources for its members. In the recent history, natural gas has been the fuel burned by marginal-unit generators in the New England market and as a result the relationship between the prices of natural gas and electrical power is strong. While the United States has experienced a boom in the volume of hydrocarbon reserves, the availability of pipeline transportation to New England has become a critical factor. During the coldest periods some gas-fired generators have been unable to produce at their expected capacity due to the inability to transport adequate fuel along the pipelines in New England. Additionally, VPPSA is investigating several avenues to offer VPPSA members an opportunity to purchase power produced by solar units located in Vermont. In-state solar generation is expected to help VPPSA's members cover daily load profiles and promote the development of renewable generation at the community level.

In 2014 LED's real-time wholesale load requirements in New England markets was 68,587,745 kWh. It reached a peak energy requirement of 13,377 kW on 1-23-2014 at the hour ending at 7 pm. Over the past five years, LED's load has trended to be in a progressive decline and gone from a high in 2009 of 76,109,570 kWh to a low of 68,587,745 kWh in 2014. This is primarily attributable to an overall decline in energy usage in the industrial General Service Large class and the loss of a portion of NSA at the Industrial Park and Kennametal (Tap & Die) in Lyndonville. LED's energy needs are projected into the future using a regressive model that uses trends, weather, economic forecasts and known customer changes. Updated load forecasts are completed regularly in an effort to refine LED's future energy need estimates. For the next five years (2015-2019) VPPSA's projections have LED energy needs remaining fairly level throughout the period.

LED's power supply portfolio is made up of generation resources, long-term contracts and short term contracts. The diversified portfolio acts as a means to financially hedge the cost of serving load at the Vermont Zone in the ISO--NE market system. LED's 2014 fuel mix can be summarized as follows, Hydro - 43.3%, Residual Mix - 30.0%, Biomass - 14.3%, Fossil - 1.3%, Standard Offer - 1.1%, Landfill Gas - 9.5% and Solar - 0.4%. VPPSA continually evaluates power markets on LED's behalf for economical methods to address future energy needs. VPPSA and LED seek to diversify the portfolio fuel mixture and to employ renewable solutions whenever possible.

In order to make its members' power costs more predictable, VPPSA implements a plan to purchase power using a systematic technique. In order to avoid uncertainty and volatile swings of frequent market purchases, LED currently participates in the Planned Purchasing structure through its membership in VPPSA. Under the Planned Purchase approach, VPPSA reviews LED's market exposure two years into the future (defined as its forecasted need for power, less amounts available through previously secured long-term contracts and generation) at six month intervals.

Periodically, LED has the opportunity to purchase a portion of its energy needs for future periods. By staggering the purchases, at any given point the market needs of LED are met by contracts purchased at different times resulting in less volatile power market prices. This is very similar to the concept of dollar cost averaging which is used in investing. As a result the contracting in even intervals, LED's outstanding power portfolio needs are filled with a laddering

effect. This approach is beneficial because the utility will not have large breaks in coverage in the immediate future and generally deters attempts to time the market. The implementation of Planned Purchasing is structured and systematic, but it does not remove the need for continual market monitoring and judgment. The goal is to use market monitoring and judgment to give the municipal system the benefit of more favorable resource prices. In the event that unusually high prices prevail at the time of a planned purchase, the purchase will be delayed.

LED's line crews, maintenance and clerical personnel saw a busy 2014. The Department reconstructed single and three phase lines throughout its distribution and transmission system. LED added about 60 new customers to its customer base and now has about 5,600 electric meters. LED's crews were responsible for the maintenance and general capital improvements to our five distribution substations and two hydro stations. The clerical staff is responsible for sending out about 66,975 individual electric bills and in the collection of our approximate \$10,577,213 of revenue. They are also our front lines at the business office for dealing with our customers about billing and electric disconnects. This is not an easy task and they certainly receive my admiration for the good job that they do.

Because of our work load and other services needed, the outside services of Neil Lefebvre Tree Works were used to assist us with our normal annual tree and brush cutting along our overhead power line rights-of-ways and during storm trouble. For the last several years we've also used the correctional centers Work Camp Trimming Crew to do most of our ground trimming within the rights-of-ways. We normally have a LED employee working with the Work Camp Trimming Crew at all times and our employee provides and operates the chipper when needed and cuts all of the danger trees. LED line crews also do power lines side cutting from our bucket trucks. Kittell Branagan & Sargent, Certified Public Accountants, conducted the annual audit of LED's accounts for the year 2014 and you can find it in its entirety following my report.

I wish to express my sincere appreciation to all employees of LED and the personnel of the other Village Departments for their assistance and excellent cooperation extended to me during the year. I would especially like to thank the Village Trustees for giving me and this Department excellent guidance and oversight throughout the year. The issues surrounding a regulated electric utility can be quite complicated and time consuming and our Village Trustees have always met the challenges presented to them. My hat is off to them.

Respectfully submitted
VILLAGE OF LYNDONVILLE
ELECTRIC DEPARTMENT
Kenneth C. Mason
LED Manager