

Load Limiting Device/Program Consultation Meeting Summary

Meeting date Wednesday, February 8, 2017 **Time** 9:30 a.m. to 3:30 p.m.
Location Radisson Red Deer Hotel **Facilitator** AUC staff
 6500 67 Street
 Red Deer, AB T4P 1A2
 Cascades East Room

1 Introductions

Name	Company
Larry Shaben	ATCO Electric
Tina Ellis	ATCO Electric
Andrea Laroiya	AUC
Fino Tiberi	AUC
Krystal Clark	AUC
Raymond Lee	AUC
Richard Goldberger	AUC
Bryce Kelly	City of Lethbridge
Jason Drenth	City of Lethbridge
Raj Mehta	City of Lethbridge
Paula Robertson	City of red Deer
Nelson Duesksen	ENMAX Power
Paul Lindsay	ENMAX Power
Thanh Nguyen	ENMAX Power
Cathy Sanderson	EPCOR Distribution & Transmission
Rick Maclise	EQUUS
Deb Crossman	FortisAlberta
Luis Lopez	UCA

2 Background and meeting objectives

- In AUC Decision 21979-D01-2016, regarding EPCOR Distribution & Transmission Inc.'s (EPCOR)'s request to amend its T&Cs to reflect that EPCOR could now remotely perform load limiting on the customers' AMI meters by using a load-limiting software program rather than installing a physical load-limiter device to the meter, the Commission determined that additional information would be required before such a change could be approved. In order to better understand EPCOR's new load-limiting approach and associated impacts, the decision indicated that the AUC would initiate a

consultation process before the end of February 2017 to seek further information on the proposed approach.

- In follow-up to Decision 21979-D01-2016, a meeting was held to allow wire owners to explain how load limiting was being performed in their service area. Further, EPCOR introduced their new load limiting program.
- It was agreed that issues relating to vulnerable customers would be addressed during the next AUC Winter Utility Reconnection Program meeting with stakeholders, while keeping in mind that customers were still obligated to pay their bills, and have opportunities to find service agencies to assist them.

3 Presentations: Wire Owners' existing load limiting practices

- To understand wire owners' existing load limiting practices, wire owners were invited to share their experience with the meeting participants. Below is a summary of the wire owners' presentations:

ATCO Electric

- ATCO used to do load limiting with a physical device, but ended that practice in 2013 due to challenges with inventory and maintenance. It was inefficient for the use of resources.
- ATCO found that using physical load-limiters had a low effective rate due to it only having a limited amount of devices and not being able to put the devices on certain sites such as apartments.
- The introduction of the vulnerable customer initiative (now known as the AUC Winter Utility Reconnection Program) addressed many of the issues around disconnection for non-payment.
- ATCO leaves it to the regulated retailer to manage disconnection for non-payment. Load limiting has not been a problem since ATCO ended that process, from an efficiency perspective, and it does not currently have plans to implement that capability.
- To execute disconnects, ATCO sends out a truck and does not have remote disconnection capabilities.

City of Lethbridge

- Customers receive disconnection notices in advance of any pending disconnections.
- Lethbridge often has customers who try to manually keep the breaker on after it shuts off which leads to failure and becomes costly to replace.
- Currently Lethbridge has 39,000 customers and of those 85 sites have load-limiters, which is less than 1 per cent of its sites.
- Lethbridge currently does not have stats for average length of load-limiters in place. Lethbridge has lots of student sites, which tend to push the duration of the load limitation.
- Lethbridge has some load-limiters on vacant sites, and uses door-knockers to assess the sites beforehand.
- The current practice used by Lethbridge involves a manual load limiter that has to be reset if the 15 amp threshold is exceeded, similar to Enmax.

ENMAX Power

- ENMAX's process hasn't changed in many years.
- ENMAX installs load-limiting devices on residential sites only, with no limit for how long a load limiter can remain on a residential site. Load limiting devices are not used for vacant sites, but are just used during the winter moratorium.

- Limiters have manual reset buttons only, so the customer has to reset the breaker themselves at the meter. A load-limiter tag is provided on the meter with information about how to restore electricity and with contact information if assistance is required.
- ENMAX load limiters have a 15 amps threshold for households and 10 amps threshold for apartments.
- ENMAX serves 454,248 residential sites in the City of Calgary. In the 2016 calendar year ENMAX had installed 11,200 load limiters and had to order more due to the economic conditions. It costs roughly \$200 for a physical load-limiter. As of Feb 02 2017, 834 residential sites had a load limiter installed on their electrical service.
- The average time a load limiter is installed at a residential premise is 2.2 days. Often it is faster.
- There is a re-connection service charge to the customer, through the retailer.
- If a retailer flags the customer as critical to have power, it will be updated in the ENMAX system and the site will not be disconnected in the winter. The retailer would get an order-failed notice if they tried to disconnect. This is strictly for financial disconnects.

FortisAlberta

- FortisAlberta currently has 530,000 total sites, 30,000 of which have remote disconnect/reconnect capabilities. All of Fortis's meters are automated except for two.
- Fortis may limit residential sites in the winter if the RRO Provider has requested a de-energize for non-payment but not farm sites.
- Physical limiters will trip if roughly 15 amps of demand is received. Non-remote meters have a manual re-set button on the limiter. A customer can re-set the limiter and power would be immediately restored to the limit.
- Limiters with remote capabilities – load limit commands are sent to meter and meter will be de-energized if the site uses more than approximately 15 amps. The meter will automatically reset after 15 minutes and limited power will be restored. These load limit commands are also sent to residential and farm sites when a de-energize for vacant request is received.
- Automatic re-energize is much faster than a physical re-energizing, as it could take several hours until a load-limiter can be removed from a site. The advantage of the remote capability is the speed of re-energizing in 15 minutes. Field operations also find remote capable meters more favorable and no truck has to be rolled
- Fortis currently has 658 sites that are limited – 441 on remote capable meters and 217 with physical limiters installed.
- Fortis looks at where the sites are that have had multiple requests; those are the sites that should have remote capabilities.
- The issue with remote capable is that you need strong signals for upstream and downstream communication.
- Fortis says load limiting process is going pretty well. They manage their inventory and measure the most efficient response.
- Technology is changing so Fortis does not define the technology in its terms and conditions of service.

EQUUS REA

- Load-limiters are intended to be the last-case scenario. EQUUS uses email, calling, door-knockers, and tries to work out simple payment plans with customers before going to a load-limiter which would be applied if these conditions are not satisfied.
- Load-limiters have a 15 amp breaker with a manual reset. Full disclosure is sent to the customer so they are aware of the installation.

- EQUS has farm, residential and some commercial sites. EQUS currently has two sites with load-limiters out of 12,000 sites. Typically, it's quite a low number as EQUS works with its members
- The effectiveness is working quite well. EQUS will be moving to AMI with a test pilot this year. Currently meters are read once a year by EQUS but every month by members.

Red Deer

- Practices are similar to ENMAX.
- Red Deer bought their load-limiters at different time periods and the limiter reset buttons are setup slightly different. The type of reset button setups include the following: push button, breaker and puncher types. When a load limiter is to be installed, the crew will leave a tag at the meter and a tag at the door.
- There are 43,800 customers in Red Deer with 115 sites that are load-limited. There are no current stats on duration of how long the installations are on for, but estimates 30 - 50 per cent are removed the same day. Normally less than five load limiters are left on all winter.
- Six sites cannot be load-limited due to capacity. They cannot be limited due to the meter and service characteristics being 2 wire/120 volt and we do not have load limiters due to the small number of sites affected. We do not know if there is a load limiter available for this service configuration.
- Crew will knock on door and is allowed to use their judgement when determining whether to install the load limiter. Red Deer had a case of a gentleman that was too elderly to reset his breaker. There was another case of a customer not familiar with the English language that had no idea that his site was in vacant status by the RRO provider and did not know what the disconnection notice meant.
- Red Deer relies on the retailer and their determination of load-limiter requirements.
- Similar to Lethbridge, Red Deer sees quite a bit of tampering from customers. This is an expensive issue. Load limiters are more expensive than the meter itself. Field operators have caught customers trying to tamper and replace a load-limiter. If the customer has made threatening remarks, then an RCMP escort is requested for return visits to check for tampering, replacement or removal of the load limiter.
- Red Deer very occasionally has received cases of medical equipment issues where customers were not listed as critical to have power but have been de-energized and required power. These sites were re-energized immediately for safety once notice of the situation was assessed.
- In all instances, Red Deer uses common sense and care for the properties as well.

4 EPCOR Distribution presentation on their load limiting program:

- There are two styles of physical load-limiters that EPCOR has used up until now: toggle switch and push button.
- Load-limiters are only installed where customers can actually reach their meter physically because if the power trips, it is a manual reset.
- EPCOR had many situations of challenging customers and hazards that made accessing the meter more difficult, which is one of the reasons EPCOR decided on AMI.
- EPCOR currently has around 300,000 AMI meters installed with approximately 75,000 residential sites left to install. By the end of 2017, all of Edmonton will be completed.

AMI metered and vacant sites

- Once EPCOR receives orders of vacant sites from retailers, EPCOR acts on them that day.
- EPCOR does not know fully what is happening inside a site, so EPCOR does not want to fully de-energize a vacant site during the winter moratorium.

- With the AMI load limiting program, EPCOR can set the number of disconnect cycles time allowed within a specific timeframe. EPCOR has set the program to allow for only one disconnect per hour. Once the number of cycles allowed is exceeded, the site will be without power until the disconnect cycle is complete. The disconnect cycle is set to last for 20 minutes.
- You can have a residential apartment that has central heating, and some can have washers/dryers. You do not always know specific information about the site which can be hard to understand what level of consumption is reasonable. The AMI program is more of a timed-approach than a cycle approach: 40 minutes on and 20 minutes off.
- It is set to allow for only one disconnect per hour, for a number of reasons. EPCOR wants to treat all of the various residential sites the same, and it is difficult to identify the threshold level for a range of consumption. 40 minutes of power ensures the site is heated, and 20 minutes is enough of an inconvenience to entice the customer to become a paying customer again.
- This procedure is only for vacant sites, to ensure the protection of the property. The objective is to prevent pipes from freezing. Essentially you would have 66 per cent consumption.
- EPCOR mentioned that although it had not done research on the impact to customer's furnaces as a result of a reoccurring disconnect/ reconnect, this program was tested on employees with no adverse effects besides devices (i.e., laptops, cell phones, tablets) unable to fully charge. With regards to furnaces, there are currently two types: pilot light and the modern electronic ignition. With pilot lights, the burner will still be on when the site is de-energized, but the fan that is used to circulate the heat will turn off. With the electronic ignition, the relay simply cannot run when the site is de-energized, so there is no risk of any gas explosions. EPCOR has a reporting tool to indicate if the load-limiter is working properly or not.
- Current stats for vacant sites: out of 1161 sites in a 33 day period, 42 per cent were resolved and 58 per cent were unresolved. Vacant site requests are processed every morning through the AMI field area network.
- EPCOR expects that the retailer is going to educate the customer before EPCOR ever gets to this stage of disconnecting.

AMI load-limiting practice

- EPCOR expressed that, technically, there is no rule requiring load-limiting in place in the winter. The regulation states you can limit, but it does not elaborate how.
- The metering technology will dictate some methods in which you can perform load limiting, but EPCOR ultimately wanted to ensure there will be heat at the site with the 40/20 cycle.
- EPCOR will be changing their load-limiting proposed approach for non-payment disconnection requests (from how it was described in their initial application) so it will closely follow the practices of, and have similar capabilities of, FortisAlberta and ENMAX.

5 Open floor discussions

- One distributor felt that AMI is timelier and removes risks of sending out workers to manually reconnect a site.
- Remote and/or AMI load limiting could be safer for the customers, not having to go out in the dark to find their meter in the snow and ice to reset the meter. In addition, without paying attention to the load limiting notice that left on the front door, some customers may not even be aware of the procedure of resetting a meter.
- When a load limiter is being imposed, perhaps a notice could be delivered to inform the customer of what the next step would be.
- Distributors cannot guarantee electricity supply at all times. They can flag the important information such as emergency contacts in their system. This important information, if on record, would be communicated by the retailer.

- An important follow-up piece would be to inform customers that paying their bill is the way to prevent load limiting from occurring.
- The UCA expressed that there are safety risks that should be assessed by someone. There is a responsibility to educate the customers and parties should consider standardizing the rules. The UCA brought up a lot of “what-if” questions regarding customer safety.
- From a risk assessment perspective, some distributors felt that they have taken steps such as winter moratorium on disconnection to manage risk during the winter months. Beyond that is a different issue. It was asked whether there were gaps in the current process that everyone was using that did not fully address the winter risk.
- It was discussed that the customer should bear a certain amount of responsibility themselves, not just the wire owner or the AUC.
- The UCA expressed that consumers must take some responsibility, but some are not that savvy to know what they are allowed to do. They need to be aware of the risks involved with the installation of any new devices. Some of the practices of the winter moratorium may lead to a customer being totally disconnected. Vulnerable consumers still have risks associated with this, but distributors are not responsible for this. Anything that could help consumers understand what they need to do is something that should be further explored. The UCA will have an active role in determining how this process will be established. The representative from the UCA recommended that the Commission think about other options for dealing with the process of winter disconnection. While distributors seem clear of their role, perhaps a more proactive role is needed.
- It was discussed that different technologies create challenges. It is difficult to design a rule that incorporates this range in technologies. There are good things to standardize, and some that are best left alone. It is difficult to design a rule that will cover every situation that could happen.
- Distributors indicated that the issue for them is what if they do not select the technology that would be proposed by the AUC or UCA. Each company is always ready to protect their name, and there may be associated costs with changing processes that would trickle down to the customers.
- The UCA responded that while they do not want extra costs, it is a balance between safety and reasonable standards and quality of service. However, the UCA did not have a recommendation at this time.
- The UCA representative also stated that who determines the threshold of what the disconnection time should be needs to be addressed. Perhaps the wording could be clearer. While the UCA is not against load-limiting devices, it is within their mandate that it prevents disconnection of electricity and gas in the winter for non-payment. This was where the UCA’s concerns were focused on. If companies are installing devices that may lead to a total disconnection, it is against our regulation. The practice of load-limiting could vary differently between companies and particular rules of practice need to be addressed. There is room for interpretation and discretion, and these types of gaps can create more problems for consumers. More clarity should be provided and should be a common goal. An assessment of one versus another should be done to determine risks and obtain data that can assure us there will not be a problem.
- With respect to the distribution tariff regulation that says you cannot disconnect in the winter, it was discussed that the intent of the regulation is that no residential customer freezes in the winter because they were cut off for non-payment.
- One distributor indicated that the Commission has consistently used the precedence of using the legislation in the context of the issue; it still meets the intent of not disconnecting customers during the winter for non-payment. It was expressed that disconnecting 20 minutes out of 60, still meets the legislation, regardless of how you do it. The question should be does everything we do effectively achieve the purpose of the plan, and that consumers are protected in a cost-effective and efficient way? A rigid policy doesn’t necessarily matter if the intent has been reached. –When asked whether

reporting is required to track issues with load limiting, distributors indicated that they track all of their escalations, so they can predict what kind of issues may persist. It was brought up that reporting should not be for the sake of it, only if an issue is required. Rules are in place to report on existing issues, and it is not clear what should be tracked. The call center may be the only reporting mechanism needed. The information is subjective, and is not measureable.

6 Wrap-up: Next steps and timelines

- It was discussed that distributors who load limit are generally using similar practices (approximately 15 amp consumption threshold will trigger a temporary disconnect), but use varying technologies and reconnection methods. They have site information, but the retailer is responsible for customer information and education. Distributors rely on the retailers.
- When asked what the next steps are and assurance that industry is working together, AUC staff recommended that re-emphasizing the processes should be considered going into the next phase of the load-limiting issue.
- AUC staff suggested that at the spring Utility Reconnection Program meeting, the group along with retailers and social agencies could continue the conversation and it would be on the table to ask distributors how the winter went and follow up with retailers to examine the processes they have taken to help customers. In addition, parties will be asked how current processes are working and whether there are improvements that could be made.
- It was agreed that there should be a part two to this discussion at the spring Utility Reconnection Program meeting so the retailer processes around load limiting and cut off for non-payment could be addressed, along with what the roles are for retailers and the UCA in mitigating disconnections.
- It was suggested that the UCA should publish more information on its website with respect to the load limiting issues such as what customers should do when they encounter a load limiting situation on their premises. As well, information directing load limiting customers where to get help on their bill payment to reduce the load limiting frequency.