ValuTech Solutions

Summary of Opt-out Programs
United States Smart Meter Deployments

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From: Edmund Finamore, President; Valutech Solutions

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Re: Demande R-3788-2012 – Hydro Quebec Opt-Out Program

Background

A growing number of utilities in the U.S. have begun offering the option to "opt-out", or refrain from receiving a smart meter due to concerns over privacy, safety or security. In response to client resistance to the installation of smart meters, several state utility commissions have approved or are considering opt-out plans that would permit clients to avoid smart meter deployment if they agree to pay for the initial and ongoing costs of retaining the older analog meters or a non-communicating digital technology.

As can be expected, the various opt-out programs currently under consideration have a range of options and prices, with very little information available concerning the actual details of the programs. As a general rule, utilities that have completed or are well into mass deployment of smart meters are requesting an initial change out fee in addition to an ongoing maintenance fee to replace the already installed smart meter. Other utilities just beginning deployment are generally requesting only the maintenance fee to recover the cost of treating opt-out clients differently. For these utilities, sign up procedures are fairly simple.

Portland General Electric, located in the state of Oregon, has what many consider to be the oldest approved smart meter opt-out program in the U.S. PGE, which has 850,000 clients and completed its smart meter deployment in 2010, charges $254.00 for a smart meter replacement and $51.00 per month for the ongoing maintenance costs. The number of opt-out clients is quite small.

Many utility commissions throughout the U.S. are studying the impact of opt-out programs on utility operations. In some cases, states such as Texas, Oklahoma and Illinois are concluding that the system wide benefits of smart meters outweigh the individual concerns that RF emissions coming from smart meters are harmful to the general public. Where opt-outs are permitted, we have found that most of the current opt-out programs consider the associated costs to be a client responsibility.

Current Regulatory Status

The states of Maine and Oregon seem to have acted the earliest to implement opt-out programs. Portland General Electric's tariff was approved by the Oregon Public Utility Commission in August 2011. In May 2011, the Maine Public Utilities Commission voted to require Central Maine Power to offer an opt-out program, and to provide lower fees for low income clients. The MPUC also required a Customer Outreach program with a 30 day notice for customers to make a decision in advance.[1]

[1] Survey of Smart Grid Implementation in New England, New England States Committee on Electricity, Allison Smith, Spring 2012.

California's preliminary opt-out program also includes lower fees for its low income clients. The California fees are being charged on an interim basis pending a final CPUC ruling this year. Southern California Edison's clients will have a dedicated phone number for signups. Clients must be given 30 days notice prior to installation of a smart meter, and may pay the initial fee over a 3 month period. Clients that deny access to their meters will be deemed to have selected the opt-out option[2].

Many of the state utility commission proceedings will direct utilities to develop opt-out procedures based on the requirements of the final commission rulings. As a result, not much information is available concerning the details of various opt-out programs.[3]

A brief listing of some of the other known regulatory activities is as follows:

- **Nevada -** The Public Utilities Commission of Nevada is conducting a proceeding that will finalize the opt-out fees for Nevada residents. Currently, NV Energy is offering two sets of rates for different areas.

- **Vermont -** Three Vermont utilities have filed opt-out programs with the Vermont Public Service Board, and some legislation is being considered to prevent opt-out fees until the utility reaches full deployment. The Vermont utilities have all delayed the implementation of their opt-out fees until at least April 2013.

- **Michigan -** The Michigan Public Service Commission is conducting a proceeding to determine the amount of opt-out fees that will be considered appropriate. DTE Edison and Consumers Energy are both planning to file their own opt-out plans ahead of final action by the Commission.

- **Maryland** - The Maryland Public Service Commission initiated a hearing in February 2012 to investigate implementing a smart meter opt-out plan for the Baltimore Gas & Electric Company and Potomac Electric Power. This proceeding is continuing, but in an April 6, 2012 filing, Commission staff recommended against permitting clients to have an opt-out option.

- **Georgia -** The State of Georgia has attempted to pass legislation permitting opt-outs for clients of Georgia Power, but no action has been taken to date.

- **Hawaii -** The Kauai Island Utility Cooperative has encountered some customer resistance and is considering implementing an opt-out program. Until then, the KIUC Board has agreed to defer installation of smart meters for any client making a request. The Hawaii Public Utilities Commission must approve any future fee that is imposed.

- **City of Naperville, IL -** City Council has voted to permit residents to have a non-wireless option instead of a smart meter. It is not clear at this point if a non-RF digital meter will be acceptable or if an analog meter must be used.

- **Other States -** A number of other states are informally investigating smart meter opt-out options. Pennsylvania, Arizona, Massachusetts, Florida and Washington DC are among the jurisdictions where opt-out programs could potentially be enacted if legislation is passed or regulatory actions are taken.

[2] See preliminary decision of Administrative Law Judge Yip-Kikugawa, March 15, 2012, SCE's SmartConnect Program. Similar decisions were implemented for San Diego Gas & Electric and Pacific Gas & Electric.

[3] One exception is Central Maine Power, which published its program details in its tariff effective July 15, 2011.

Utilities Known to Be Offering Smart Meter Opt-out Programs

The following table lists the known (existing or planned) opt-out programs along with the number of meters:

Utility	Customers	Utility	Customers
DTE Edison	2.6 M Elec /1.3 M Gas	Pacific Gas & Electric	5.2 M Elec /4.8 M Gas
Consumers Energy	1.8 M Elec /600K Gas	San Diego Gas & Elec.	1.4 M Elec
Portland General	850 K Elec	Cent. Vermont Pub. Serv	159 K Elec
Southern Cal. Edison	4.9 M Elec	Green Mount. Power	96K Elec
NV Energy	1.5 M Elec	City of Naperville	57 K Elec
Burlington Electric	20 K Elec	Kauai Island Elec. Coop.	32K Elec
Central Maine Power	650K Elec		

Table 1

California Case – Conclusions of Law

In April, 2012, a proposed decision in the California rate case was issued by the California Public Utilities Commission concerning SCE's opt-out program. Among the preliminary findings taken from the Decision are[4]:

- A residential customer should be allowed to opt-out of a wireless smart meter for any reason, or for no reason.
- The –opt-out option must balance the concerns expressed by customers against California's overall energy policy, and should not impede ongoing state energy objectives.
- Although a non-communicating smart meter is the preferred opt-out option, an analog meter opt-out option could be offered at this time, as there are no mandatory residential TOU rates.
- Until there is additional information on the costs to offer multiple opt-out options, only a single opt-out option should be offered.
- SCE…should be allowed to recover the costs associated with offering the opt-out option to the extent those costs are found to be appropriate, reasonable and not already recovered in rates.
- A residential customer selecting the opt-out option should be assessed an initial charge and a monthly charge.
- A discount should be provided to customers enrolled in the CARE (low income) program.
- There should be a second phase in the proceeding to consider cost and cost allocation issues associated with offering an opt-out option.

[4] In some cases, the specific Conclusions of Law as listed in the preliminary Decision have been edited or abbreviated for purposes of conciseness.

- An interim initial fee and monthly charge for customers electing the opt-out option should be assessed until a final decision on cost and allocation issues is issued.

To date the second phase of this proceeding has not yet been completed. This ruling has been expanded to include all three California investor owned utilities under CPUC jurisdiction, SCE, San Diego Gas & Electric and Pacific Gas & Electric. At this time, it is likely that many of the smaller municipal jurisdictions in California will adopt similar programs, although the program details and cost basis may be different.

Following is a table of known smart meter opt-out programs in the U.S.:

Name	Deployment Status	Monthly Charge	Initial Charge	Comments
Central Vermont Public Service	In Progress	$10.00	--	Delayed until April 2013
Green Mountain Power	Just Starting	$10.00	--	Delayed until April 2013
Burlington Electric	Just Starting	$7.50	--	Delayed until full deployment is completed
San Diego Gas & Electric	In Progress	$10.00	$75.00	Preliminary approval by CPUC on April 19, 2012
Southern California Edison	In Progress	$10.00	$75.00	Preliminary approval by CPUC on April 19, 2012
Pacific Gas & Electric	In Progress	$10.00	$75.00	Preliminary approval by CPUC on February 12, 2012
Central Maine Power	In Progress	$12.00	$40.00	Approval by MPUC on May 17, 2011. RF off option- $20 Initial/$10.50 mo.
Kauai Island Utility Coop.	Just Starting	Not Determined	Not Determined	Smart meters can be indefinitely deferred until HPUC approves plan
NV Energy	In Progress	Avg. $9.30	Avg. $100.00	Customers on postponement list have 90 days to decide
Portland General Electric	Nearly Completed	$51.00	$254.00	Approved tariff pricing as of August 2011
DTE Edison	In Progress	Not Determined	Not Determined	March 16, 2012 filing to permit voluntary opt. out
Consumers Energy	Just Starting	Not Determined	Not Determined	Planning to permit voluntary opt. out-pending MPSC authorization
City of Naperville, IL	In Progress	$25.00	$68.00	City Council approved opt out in October 2011

Table 2

Other jurisdictions considering opt-out programs will likely conform to these same general standards. To some degree the individual opt-out programs reflect the variations in customer base, region and local support or opposition to smart metering generally. The City of Naperville, for example, is regulated by a City Council that is locally controlled and is subject to an ongoing debate over smart meter issues.

Opt-out Participation Rates

Since most opt-out programs are in the early stages, very little information is available on actual utility opt-out participation levels. Some utilities have instituted delay lists of clients who have applied for opt-out status but are awaiting final resolution concerning the initial and ongoing cost. Other utilities, such as Central Vermont Public Service and Green Mountain Power, are postponing assessment of opt-out fees until a later time. This will permit clients to take a "wait and see" approach without the immediate need for a decision to accept a smart meter or pay the fee.

According to one press report, Pacific Gas & Electric had received approximately 19,500 opt-out requests as of April 24, 2012. Based on a residential client base of 5.4 million clients, the opt-out rate is therefore calculated to be 0.36%. Portland General Electric, with the most expensive opt-out rates, has received only 2 opt-out requests for its 800,000 customers according to one report.

NV Energy, which has higher than average opt-out fees, is estimating that they will experience approximately 7,500 opt-outs, or 0.5% of their 1.5 million clients, according to a news source. Potomac Electric Power Company (PEPCO) and Burlington Electric in Vermont have selected a preliminary opt-out figure of 1.5% for use in their tariff projections.

Based on this limited sampling of opt-out programs, it appears that utilities can generally expect to experience an opt-out rate of 0.5% - 1.5% of the residential client population depending primarily on the amount of fees. However, some of the utilities with opt-out costs projected to be on the low end of the cost spectrum have not yet begun to deploy smart meters on a high volume basis, so actual data is not yet available.

And a few utilities, including the California utilities, have approved even lower fees for low income customers. For these utilities, the opt-out participation rate might be somewhat higher. From the experience of Portland General, it seems clear that higher opt-out fees will largely discourage clients from opting out of their utility smart meter programs.

Non-payment Considerations

It appears that some utilities may be concerned over the impact of opt-out programs on revenue collection. Some utilities, such as Southern California Edison, would permit a client to pay the initial opt-out fee over several months along with the monthly fee and their normal utility bill. Because this arrangement could potentially increase the number of delinquent accounts and uncollected revenue, utilities are looking at methods to manage this issue so that the number of delinquent clients does not substantially increase.

SCE's proposed opt-out rules include the following:

1. Customers may pay the initial fee to participate in the opt-out option over a three-month period.
2. SCE may remove a customer from participating in the opt-out option if the customer fails to pay the initial fee within three months of installation of the opt-out meter or the monthly charge.
3. A customer may enroll in the opt-out option at any time. However, a customer shall not be allowed to request to participate in the opt-out option at the same residence more than once during any twelve-month period.

These rules appear to let any client participate right away, but subject them to the normal collection and shut-off procedures if they become delinquent in paying the fees on their bill. In addition, they would not be permitted to re-apply for the opt-out program for 12 months if they are shut off for non-payment of their bill.

Some Jurisdictions Prohibit Opt-out Option

As the above table shows, there are approximately 12-13 utilities located in 7-8 different jurisdictions that are actively considering smart meter opt-out programs at this time. However, this number is not close to becoming a majority since there are 50 states and hundreds of municipalities that are considering or implementing smart meters.

Smart metering deployment is taking place in an uneven manner in the U.S. so many jurisdictions have not yet begun to address this issue. In some cases, utility commissions are acting on their own to address the issue, while in others, such as in the state of Georgia, legislation has been introduced that has not been signed into law.

Several states, such as Texas, Illinois and Maryland are currently involved in proceedings that could lead to prohibiting clients from opting-out. Illinois, for example, has been experiencing severe power outage conditions in recent years, and customers opting out of Commonwealth Edison's AMI system would not have smart meters capable of reporting outages. So because of extreme weather conditions, smart grid integrity and system-wide power outage management are considered higher priorities by the Commission than permitting clients to opt-out.[5]

The Public Utility Commission of Texas has initiated a "Proceeding to Examine the Feasibility of Instituting a Smart Meter Opt-Out Program". This proceeding is currently underway, and the PUCT staff has recommended against approving an opt-out program because of the importance in Texas of implementing demand response, retail energy access and time-of-use programs which require a smart meter to participate.

In February 2012, the Maryland Public Service Commission initiated a hearing to examine the potential for an opt-out option for utilities implementing AMI systems in the state of Maryland, and to determine if utility smart meter opt-out programs are in the public interest. The state's two largest utilities, Baltimore Gas and Electric and PEPCO, submitted comments recommending against instituting an opt-out program. MPSC staff also submitted a filing recommending against implementing an opt-out program for Maryland residents.

In recommending against establishing a smart meter opt-out program, the Commission staff cited the following reasons:[6]

- Initial AMI project business cases did not include opt-out provisions, and requiring opt-out programs could affect the business case results.
- Operational savings would be reduced, because elimination of truck rolls could not be fully accomplished due to the need to read meters manually.
- Service quality would be adversely affected because of the resulting inability to detect power outages and low voltage conditions at client locations without a smart meter.

[5] It should be noted that the City of Naperville, which is in the state of Illinois, does not fall under the same regulatory jurisdiction as the investor owned utilities in Illinois.

[6] See PEPCO Case No. 9207 and BG&E Case No. 9208 Smart Meter Opt-Out Comments, Public Service Commission Staff, dated April 6, 2012.

- Including opt-out provisions would lead to higher AMI system implementation costs due to higher administrative costs to handle the exceptions created by opt-out client requests.

- Permitting some clients to opt-out could lead to degraded service for other nearby clients due to the degrading effects of opt-out on the AMI system mesh networks. Alternatively, additional equipment must be added to compensate for the opt-outs at additional project cost.

- Benefits such as energy theft detection and grid utilization could not be fully realized. Transformer loading, for example, could not be accurately monitored if some clients opted-out of their smart meters.

- Opt-out clients could not participate in future time-of-use rates, electric vehicle charging programs or off system energy purchases without a smart meter to record time differentiated energy usage.

- Projection of the precise number of opt-out clients and their locations is difficult, and would introduce additional uncertainty in the design and cost of AMI systems that are being implemented.

The MPSC staff has pointed out in its filing that opt-out provisions would not only affect the quality of service for the opt-out clients, but could potentially affect service for other clients as well. Smart grid reliability could be compromised if network mapping, load aggregation and voltage studies become less accurate from not including clients without smart meters.

Conclusions

It appears from review of the various opt-out programs and regulatory proceedings in the United States that no clear trend has been established for or against permitting smart meter clients to opt-out at this time. From the available information, it is likely that most utility AMI business cases have been developed assuming full participation of all clients.

The added administrative costs and uncertain impact of opt-out programs on utility operations have produced significant differences of opinion within the industry concerning the benefits vs. drawbacks of opting-out and the resulting impact on the utility's business case. Most utilities agree, however, that permitting clients to opt-out of receiving a smart meter will increase operating costs and adversely affect outage response and grid reliability.

A major driver of AMI systems in the U.S. has been the need to improve smart grid reliability in the face of growing electricity demand and higher energy costs. As new environmental regulations produce a reduction in the amount of power generated from fossil fuels, the need for demand response and other load shifting programs to flatten peak system energy usage has never been greater. Improving grid reliability involves preventing power outages, shortening outage response times and monitoring power and load conditions across the electric grid. Many improvements cannot be effectively implemented without moving to time-based energy pricing and employing the load monitoring capabilities of AMI systems and their smart meters.

As a result, it appears that an early struggle is taking place in the U.S. among the various constituencies that are concerned over RF health issues and support opt-out programs, and the utility industry and utility regulators that appear more concerned over issues of cost and grid reliability. Most of the opt-out regulatory

proceedings initiated to date in the U.S. are still continuing, and resulting rulings that take place in the next few years could begin to determine the outcome of this issue.

Early opt-out program results suggest that client participation could likely be driven by the dollar amount of the initial and ongoing maintenance fees charged by the utilities. As the Portland General Electric case demonstrates, only limited opt-out participation occurs when high opt-out fees are charged by the utility. Studies conducted to date on the health effects of meter induced RF emissions appear to conclude that these emissions will have a negligible effect on the general public. If additional studies are conducted in the future that produce different results, it is possible that health issues could begin to take over the debate.

For now, it appears that most utilities will continue to implement their AMI systems with the intention of providing smart meters for everyone. However, a number of jurisdictions are continuing to move ahead with client opt-out programs. Whether adoption of opt-out programs will become a significant trend in the U.S. is not clear at this current stage of smart meter deployment.

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