

Olameter

Response to:

**The IMO's Wholesale/Retail Market
Integration Plan**

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Olameter

1255 Nicholson Rd.
Newmarket, ON L3Y 7V1
Tel: (905) 853-6474
Fax: (905) 853-6705

Executive Summary

Olameter is pleased to provide the IMO with input regarding our views related to Wholesale/Retail market integration. We believe this is a very important initiative and may be key to success of Ontario's deregulated market. We are at a cross roads in our current market, the decisions made over the next 12 months will be crucial to all the electricity users in the province, with supply being very close to the provincial demand in many months of the year and prices higher than anticipated we are in a perilous position. The IMO has many initiatives on the table and many of the initiatives related to market evolution will improve market structure, however components the Wholesale/Retail market integration plan may provide the most promise to stabilize price and bring security to the supply situation.

If we specifically look at Table 1-1 in your Discussion paper on Wholesale/Retail Integration Project we see great potential in issue areas 2 (Retail level Demand Response, Load Aggregation, Load Control) and 3 (Retail Level Interval Metering, Distributed Generation). These initiatives may hold the most hope for providing relief for some of our current short term issues related to price and security of supply and longer term issues related to market design and smoothing the volatility of price by giving the IMO more tools to balance the market in an effective manner. The Ontario market has undergone numerous changes in the last 14 months since market opening. It is the responsibility of all parties to ensure that future changes are strategic and lead to a better overall market function with greater price stability. It is in this context that we have provided input to your Wholesale/Retail integration discussion paper.

We have also provided a current status and an overview of the **Olameter** Lightning BUG project which has the possibility filling the role of a bridge between the Wholesale and Retail market for the IMO. This project is aimed at providing a mechanism for the aggregation of embedded retail loads and generators so they can effectively be bid into existing and future operating reserve markets. To make this work there needs to sufficient financial incentive for end use customers to place these resources under the control of a third party, and for someone to make the investment in infrastructure to be able to place them under centralized control. **Olameter** already has made a substantial investment in this project and is ready to move it beyond the pilot stage. WE believe that this integrated strategy of combining embedded loads and generation sources in unique and will provide greater benefits. We also believe that best and most widely accepted demand management programs will not rely on end users drastically changing their lifestyles but manage loads unobtrusively to the end users.

We are hopeful that the IMO will not only support our Lightning BUG Project, but keep our comments in mind when considering future changes to market rules to support similar projects.

If you have any comments on our feedback on our suggestions or would like a demonstration of our Lightning BUG project please contact:

John Forsyth
Director of Business Development
Olameter
Telephone: 416.954.4895, email jforsyth@urb.on.ca

Olameter Corporate Overview

Before presenting our views on the IMO's Wholesale /Retail Integration plan, especially as it related to several IMO initiatives and our own related plans, I would like to give you some background on **Olameter** and the perspective we bring to these discussions. **Olameter** is one of the leading independent meter services company in North America, currently providing over 2 million meter reads monthly. **Olameter** offers a full range of telemetry and back-office systems to utilities (electric, water & gas), including meter reading, billing, meter shop services, data collection, aggregation and automated site management services. We also provide a host of additional services including ASP Billing Services for over 260,000 customers, Metering and Meter related products and manage vast amounts of meter consumption data through our software platforms for our clients.

Olameter is a dynamic, growing service company dedicated to providing a variety of quality services to the Municipal & Electrical Industry. Operating since 1989, we have constructively built our Employee base to over 350 Employees. We have expanded our client base to include over 63 Utilities in Ontario servicing 168 communities creating the largest meter reading and associated services company in Canada, we will continue to expand our services in Ontario and in other markets.

The management and owners of **Olameter** Inc. were also the founders, managers and largest shareholders of FONOROLA Inc., a Canadian telecommunications company that was acquired, for 1.8 billion by Call-Net Enterprises, an affiliate of U.S. Sprint, in June of 1998. FONOROLA was a conservatively capitalized and profitable company, which, over its nine-year life, provided its shareholders with a compounded 54% rate of return on investment. The communications facilities built by FONOROLA now serve as the trans-continental backbone for the networks of Bell Canada, AT&T Canada, Sprint Canada, as well as BCTel and Telus (Canadian affiliates of GTE). These facilities are also the regional backbones of Rogers and Cogeco (cable companies with a combined base of over 3 million subscribers), as well as Hydro-Quebec. In many regards, FONOROLA was a pioneer in the deregulation of the Canadian telecommunications industry and the undisputed leader in the deployment of high-speed advanced communications networks in Canada.



Olameter wants to create a new class of participants in the market, one that can handle the job of providing site service functions using the most cost effective methods. Neither an energy seller nor a meter vendor, **Olameter** is a neutral facilitator that operates for the benefits of all sides by providing everything related to the management of metering technology and consumption data. The goal of **Olameter** is to create an infrastructure based on telemetry that will provide the electric, gas, water, and communication industries with the seamless management of on-site services that range from utility meter reading, high-speed Internet, home automation, load management, distributed generation, security, and e-commerce applications.

To generate efficiency, Utilities are forming strategic alliances with companies whose long-term goals are similar to their own. The idea of a strategic alliance is nothing new to **Olameter**. We have always worked as a partner with our Customers, offering advice and information regarding the Utility marketplace; not just how it relates to the Customer, but also from a North American standpoint.

IMO Wholesale/Retail Market Integration & Current Market Issues

Olameter has some unique views on Wholesale/Retail market integration and we believe that **Olameter** can be a key ally in the IMO's efforts to bring the Wholesale and Retail markets closer together. This proposed integration by the IMO has the potential to bring many benefits that will improve the function, efficiency and reliability of the current wholesale market. We believe that **Olameter** can contribute by providing an effective bridge between the wholesale market and the embedded retail loads and generators who wish to participate in the wholesale market can simplify the interaction between these smaller entities and the IMO by providing a common mechanism to participate in various IMO wholesale market programs. **Olameter** is prepared to offer a service to the LDC's, Retailers and selected other parties in Ontario which may facilitate participation by the many potential loads and generators embedded within the retail market to provide real and achievable benefits to the wholesale market. We have provided these comments based on our experiences with LDC's, Retailers and associated vendors as we are moving closer to operational readiness by initiating a pilot program to prove the economics and feasibility of our solution to Ontario's wholesale electricity marketplace.

Wholesale/Retail Market Integration Comments

- Buy in and participation from all the affected parties on both the Retail and Wholesale sides of the market is paramount including the OEB, Ministry of Energy, and IMO. However someone has to take a leading role to drive this integration strategy and the only party with necessary experience, mechanisms and resources is the IMO. We also recommend a strategic approach with consultation from all affected parties including LDC's, Retailers, potential service providers and customer groups.
- All parties need to keep a very open mind to new alternatives to solving the very real problems facing the Ontario electricity market. Service providers like **Olameter** will approach the marketplace with innovative and cost effective solutions that will benefit the market as a whole; we are willing to make the necessary strategic investments in solutions for the good of the market if they make good business sense.
- There needs to be a change from the perspective that all our Demand/Supply imbalance issues will be solved solely by adding new generation, a realistic look at demand side options is needed. The technology and telemetry on the demand side has developed to the point where a demand response program can be a viable and verifiable option.
- The market must continue to evolve and the changes to the current market rules are necessary to facilitate a strong demand response program. We need to foster an environment where all affected parties are willing to make the necessary investments to participate in the programs that will benefit the market and its reliability.
- The major bridge between the wholesale and retail markets are the LDC's and Retailer's and they are currently under severe financial stress due to the drastic changes in the retail market structure. They are struggling to meet compliance and manage change with limited financial and human resources. This fact will have to be acknowledged if they are to play a role in any integration strategy.
- A strategic approach as to how the to share the benefits of demand/supply initiatives is needed now that there is no longer a vertical monopoly where parties will make investments in programs to offset future internal costs. We have an unbundled market with differing business drivers where generators want high prices to ensure a good return

- on their investment, end use loads want low prices and reliability to ensure they are competitive; distributors who manage their distribution systems want a return on their distribution and metering infrastructure. Their needs to be a single party who looks at the overall economic and market benefits of any initiative to determine how best the financial benefits derived can be redistributed back to most appropriate parties.
- We have seen through the promotion of our initiatives that the LDC's and retailers are keen to participate in demand response programs. However some type of economic incentive or mechanism is needed for them and their associated end use clients to give them a reason to participate in any type of demand response program that may be part of wholesale market integration plan.
 - The current belief is that price signals alone are enough to deter loads and incent generators. The 4.3 fixed price market currently has no price signal to respond to. The non 4.3 market has a lot of capability to provide backup generation or controllable loads into the market to improve reliability and use of costly imports that affect all customers via uplift. However the mechanisms and technology are not currently in place to take advantage of these customers.

Specific Comments & Issues Related to:

IMO Issue Area #2

Retail Demand Response, Load Aggregation, Load Control

- Retail Demand response will require participation of LDC's or Retailers who have the relationships with the retail embedded customers who may wish to participate in a program.
- No process or mechanism for parties such as *Olameter* to approach the IMO to act as aggregators for the purpose of bringing many retail loads into the market and bidding their loads into operating reserve or demand response programs.
- Many utilities still have functional Water heater controls that could be initiated with the proper incentives.
- The technology exists to control appliances in homes and businesses via current technology. However someone has to make the investment and see the long term financial reward to invest in this type of project.

IMO Issue area #3

Retail Interval Metering, Distributed Generation

- Belief that Interval Meters will give customers the incentive to shift loads – How will they know what the market price is? How many are really going to change their lifestyle in the long term to take advantage of spot market pricing? Will a residential version of an interval meter at \$300 with limited functionality be a wise investment? We advocate considering an integrated load control/Interval meter whereby you can get added benefits of automated load control of appliances within a home or commercial facility as well as interval meter data.
- No process or mechanism for parties such as *Olameter* to approach the IMO to act as aggregators for the purpose of bringing many retail generators into the market. The mechanisms and requirements for bringing these smaller generators into the wholesale market need to be defined for this market as current IMO requirements may be overly stringent.

- If these types of small generators can be brought into the market at a reasonable fee with a potential to bid into operating reserve market through a aggregator, it is possible the incremental investment required for existing or new backup generators to be able to participate in the wholesale market can be justified.
- No mechanism or incentive for embedded generators to offer their capacity into the IMO administered operating reserve market.

The Opportunity- Olameter Lightning BUG pilot project

Olameter has identified an area of opportunity that touches on several aspects of the IMO's Wholesale/Retail market integration plan. Based on our extensive experience as a solutions provider to the energy industry including Utility/Retailer back office services and metering related field services, we have developed an initial pilot project call Lightning BUG to test the feasibility of bringing existing generators embedded in the retail market under dispatch control from a central authority. A secondary phase of the Lightning BUG project will be to bring loads that are embedded in the retail market under the same kind of control structure. The opportunities identified by **Olameter** in Wholesale/Retail market seem that constitute the goals for this project include:

- To offer a service that will provide the mechanism for both generators and loads that are currently embedded in the retail market to participate in the IMO administered wholesale market with minimal costs and effort.
- Prove that these multiple assets can provide a greater diversity and reliability than other assets being considered and the Provincial Ministry or OEFC level and they should qualify for some type of capital funding as they offset the need for capital construction of new assets by these organizations.
- Provide the IMO with a highly detailed and granular load and generation control system not currently available in this market and also provide the necessary audit trail and settlement detail that will satisfy IMO requirements.
- Provide the bridge between the current IMO administered Wholesale Market and the OEB administered Retail Market for a demand response program.
- Have a working pilot project in place for the peak summer cooling season July/August of 2003
- Provide a mechanism for Local Distribution Companies (LDC's) and Retail service providers (Retailers) to offer demand response related programs to their end use customers with the associated financial incentives to make the project viable.
- Immediately provide any of our Generation or Load Response capabilities to the IMO as part of a pilot program to assist with the projected tight electricity supply situation in the Ontario market.
- Provide load and generation control within the response times that are critical in the IMO Market, Including 5 minute response (target), but also 30 minute response depending on the types resources controlled.
- Show the Regulatory Authorities that there is a keen interest in the marketplace with LDC's and Retailers to participate in this type of program and that the technology exists and is in place to deliver on the promise of a demand response project that integrates both loads and generators for the benefit of the marketplace.

- Prove to the parties involved that there are interested parties such as **Olameter** who are working to break down and remove barriers and are making substantial investments in projects that could provide critical benefits for the Ontario Energy market.
- If it takes a third party such as **Olameter** to take on some of the financial risks we are willing to do so if we can secure the support of all the parties involved to help in the task of recognizing the many benefits of a demand response program and appropriate mechanisms to pass the financial benefits and rewards to the parties who participate.
- Ensure that these distributed resources are acceptable to bid into the IMO Operating Reserve markets

Olameter Lightning Bug Project Overview

Olameter has a vision for a potential solution for the critical issues facing the Ontario market related to electricity pricing and security of supply. There are two components of this vision the first being to control existing generation assets in the field that are not currently being utilized in demand response scenario, the second component is to utilize advanced technology at the residential and small commercial level (now at 4.3 cent fixed price until 2006) to bring a significant component of controllable load that can be dispatched off as required by a central authority. Key aspects of both options are the granularity of controllable load or generation and verification of the load controlled or generated along with the necessary financial settlement for operation.

Project Overview

This project concentrates on our vision of a load and generation control strategy that will offer control for retail embedded load and generation assets in the field. There currently are generation assets in the province that could be used to mitigate the current shortage of supply situation being faced in Ontario. Many of these small and medium sized generators and loads are not controlled in a way that reacts to price signals from the IMO spot market or a situation where demand curtailment is required to ensure security of supply. Most of these generators and loads are embedded in the retail market and do not participate in the IMO wholesale market nor do they want to due to very onerous IMO requirements. An opportunity exists to bring existing technology to the Ontario market to help retail market participants manage their facilities and Electricity costs in an automated fashion allowing them to take advantage of price fluctuations in the market or receive potential incentives to reduce load or activate generators as part of a demand response program.

Currently there are minimal incentives for responding to situations whereby demand is outpacing provincial supply. The IMO has relied on imports to satisfy the demand when usage exceeds the supply of internal generation in the province. When demand is reaching the point where the generators in the province can no longer meet requirements, import energy is purchased on firm basis to ensure security of supply in Ontario. During these times the most expensive generators in the province are setting the market price (\$100-500/ MWH) and import power is used to supplement. These import charges can be significant (can be excess of \$1000 MWH) and are passed on to customers via uplift charges as they do set the market price. Typically when demand is excessive in Ontario it is temperature related and this affects the entire region making generation a scarcity and prone to excessive prices for this import power as all surrounding market are also in a tight supply situation.

If the IMO or other central authority was able to initiate a control signal to backup generation assets, this may significantly reduce the amount of expensive import power required or help to reduce the need for more expensive internal generation during periods of high demand. This could lead to improved security of supply and a mechanism to mitigate periods of excessive price for electricity.

Pilot Project

In Order to prove the feasibility of this concept **Olameter** will initiate a pilot project that will demonstrate the ability to bring a working solution to market in time for the summer peak demand season. This will allow **Olameter** to demonstrate that this is a working technology that can help the current supply situation. This will also allow a working solution to be demonstrated to help facilitate the changing of regulatory rules and requirements to make this project feasible from a monetary standpoint.

Phase 1 of the Lightning Bug Project will be operational and ready to demonstrate during the July and August period. As part of phase 1 we will have approximately 12 generators being monitored and 5 generators under direct control to prove the feasibility of this technology. This will allow generators to be initiated by a dynamic process that will monitor IMO Price and Gas or other fuel prices to determine a strike price at which it is economically justified to operate. We will also provide a sample dashboard screen to show the potential of controlling by a central authority where assets can be listed and summarized by size, fuel type, geographic location, ramp up time etc. These assets can then be dispatched by any grouping or by total available units to meet any required dispatch strategy at an IMO or ISO level.

Phase 2 is the integration of a two way gateway device that will collect interval data from a standard residential meter equipped with a low cost RF device to communicate with the gateway. The phase 2 pilot is planned to be operational in the September/October timeframe. The gateway will store hourly reads from the meter and communicate back to the central station. The gateway will also allow control of an RF equipped Honeywell thermostat to allow set back and control during both heating and cooling seasons as required. The gateway can also operate additional loads such as water heaters and pool pumps or other controllable loads with minimal or no impact to the user's lifestyle.

Current Market Barriers to Implementing a Plan

We will attempt to list some of the barriers we are facing as part of current initiatives that will also affect any market integration plans by the IMO.

- LDC's and retailers are still struggling with billing and rules changes that have them near the breaking point, making it is difficult for them to get involved in discussion on market integration.
- LDC's have no incentive to participate in any demand response programs.
- Retailers are reluctant to invest in this marketplace with the current uncertainty.
- Lack of incentives for the end use customers that provide benefits to overall market.
- A view that Loads should not be paid or incented to turn off - that market price alone should drive that and that adding supply is the only credible option.
- A view that Interval Meters will solve most of the market problems once the spot market price is once again passed on to the 4.3 fixed rate customers.
- Stringent Wholesale market participant rules for metering, communication, account management and settlement management that are very costly for small users.
- Confusion over requirements, mechanisms and how to bid these loads and generators into operating reserve markets, also difficulty predicting what potential revenue may come from bidding into these markets.
- Education of all Market Participants on the benefits of participating in these programs

- Lack of consideration for environmental consequences when considering demand response programs
- Lack of an effective means or channel for aggregating Retailers loads into the Wholesale market
- Need for validation and verification that loads or generators were controlled and a flow of benefits to only those who have made a contribution
- If many LDC's or Retailers or even embedded retail market participants approached the IMO to participate in programs would that create new bottlenecks or strains on the IMO resources?
- Length of time it will take to get a program up and running while we are exposed excessive market prices.
- The loudest voices at market design meetings are the loads and generators looking to influence the rules, there is not a strong voice at the IMO meetings advocating for mid sized, small and residential consumers who may benefit the market by their participation.

Olameter - Wholesale/Retail integration project suggestions

Olameter is committed to providing a solution to the Ontario marketplace for embedded loads generators in the retail market to cost effectively participate in various programs at the wholesale market level. While **Olameter** is willing to make an investment in the technology and marketing to promote the types of programs which will facilitate the integration of the wholesale and retail markets we need the IMO to take a holistic view of Ontario's current Supply/Demand situation from a neutral standpoint as they make decisions which will affect Ontario residents for the foreseeable future. We believe it is in the best interests of the market to take a long term view of the benefits of a Demand Response initiative that incorporates retail market participants. There is an untapped potential to use existing or new generation and load resources at the retail level to provide current relief to Ontario's current tight supply situation and offer longer term price benefits to all electricity consumers in Ontario. The IMO could foster such a program by putting the mechanisms and rules in place to allow the aggregation of these retail resources and providing the support and direction to parties such as **Olameter** who are willing to make the necessary investments to put a workable plan in place.

IMO Related Comments/Suggestions

As part of their Wholesale/Retail Market integration deliberations on how to move forward and what the IMO needs to do, **Olameter** has several suggestions for the IMO

- Make IMO technical resources available to assist parties who are considering options that will assist in market integration. These resources are necessary to provide insight into potential barriers, how meet current IMO market requirements, and provide the impact of new rules being considered at the IMO level.
- IMO needs to be the party who takes a look at the market as whole and assesses the overall market and economic benefits of new initiatives without bias to loads or generators.
- IMO needs to review of the market rules as they relate to smaller loads or generators embedded in the retail market. It may not be cost effective for these smaller entities to meet stringent IMO Metering Requirements
- Encourage the role of Aggregators in respect to bringing a myriad of embedded Retail resources to the IMO level to participate via a single channel of communication for the IMO vs each Retail resource communicating directly with the IMO.
- Provide advice and direction on the best mechanisms in current market rules to participate in Operating Reserve markets for potential aggregators.
- Recognize the role for LDC's, Retailers and third parties in bringing potential programs for integration to the IMO market.
- Separation of Value Chain – Incentives should go to the appropriate parties typically those who generate the benefits.
- Encourage third parties who are willing to take on some of the risks and rewards to bring projects to the table that will benefit the market economically or improve reliability
- To have an open mind to new solutions and new ideas based on the economic benefits provided to the wholesale market.