

IESO Stakeholder Advisory Committee Meeting Notes – October 17, 2018

Advisory Committee Members:

Mr. Brian Bentz, Chair (representing Distributors and Transmitters)
Mr. Steve Baker (representing Energy Related Businesses and Services)
Mr. Nicolas Bossé (representing Energy Related Businesses and Services)
Ms. Darlene Bradley (representing Distributors and Transmitters)
Mr. David Butters (representing Generators)
Ms. Judy Dezell (representing Ontario Communities)
Ms. Brandy Giannetta (representing Generators)
Ms. Julie Girvan (representing Consumers)
Ms. Rachel Ingram (representing Energy Related Businesses and Services)
Mr. Frank Kallonen (representing Distributors and Transmitters)
Mr. Ted Leonard (representing Energy Related Businesses and Services) (by phone)
Mr. Paul Norris (representing Generators)
Mr. Mark Passi (representing Consumers)
Mr. Mark Schembri (representing Consumers)
Mr. James Scongack, Vice Chair (representing Generators)
Mr. Terry Young (representing IESO)

Absent:

Mr. John Beaucage (representing Ontario Communities)
Mr. Jim Hogan (representing Distributors and Transmitters)
Mr. Hari Suthan (representing Energy Related Businesses and Services)

IESO Board Members:

Ms. Cynthia Chaplin
Mr. Murray Elston
Mr. Peter Gregg
Ms. Susanna Han
Ms. Margaret Kelch
Dr. Timothy O'Neill
Mr. Glenn Rainbird
Ms. Ersilia Serafini
Ms. Deborah Whale
Ms. Carole Workman

Presentations:

Mr. Bruce Campbell
Ms. Alexandra Campbell
Ms. Barbara Ellard
Mr. Chuck Farmer
Ms. Sorana Ionescu
Ms. Jessica Savage
Ms. Katherine Sparkes

Agenda Item No. 1: Welcome

Mr. Brian Bentz welcomed everyone to the final SAC meeting of 2018. He introduced the IESO board members in attendance and outlined the agenda for the meeting.

Agenda Item No. 2: IESO Business Update

Mr. Terry Young provided the following updates.

Conservation

The IESO has posted 2018 results for its Home Assistance Program for low-income customers across the province.

A new Save On Energy website was launched last month which now includes mobile responsive design.

The biannual Save on Energy Deal Days event is under way until November 4 with 1,300 participating retailers. Customers can purchase a wide range of energy-efficient products, some with point-of-sale discounts attached.

Stakeholder and Community Engagement

The regional electricity forums begun last year are continuing this fall in Waterloo and Timmins. More regional forums will take place in Thunder Bay and Kingston in spring 2019.

The IESO will host its second-annual First Nations Energy Symposium October 22–24 in Toronto. The symposium will cover regional planning, transmission procurement, and innovation programs within Indigenous communities. The IESO is also working with the Métis Nation of Ontario to host a similar Métis Energy Symposium.

Two new members have joined the Technical Panel. Vlad Urukov is Director, Generation and Revenue Planning at Ontario Power Generation. David Forsyth is an energy management consultant at the Association of Major Power Consumers of Ontario.

With respect to governance, the IESO is looking at potential enhancements to the market rule, market manual and the dispute resolution process. The IESO has received input from the SAC, the Technical Panel, the Market Renewal Working Group, and an open public session. An eight-member advisory group will report to the IESO board of directors in December.

The IESO is seeking stakeholder feedback on a formal integrated bulk system planning process, a competitive transmission procurement process, a customer reliability review, a transmission assets end-of-life process, and a regional planning process review.

The Energy Storage Advisory Group has met four times to identify potential obstacles to fair competition for energy storage resources and to look at mitigating strategies. The

group will develop criteria to help guide the identification of such obstacles. The completion date was extended from September 30 to November 6.

Monthly engagement updates are available on the IESO website.

Agenda Item No. 3: OEB Modernization Panel Update

Mr. Bruce Campbell said the OEB Modernization Panel is made up of Richard Dicerni (chair), Cara Clairman, and Bruce Campbell.

On August 30 the Minister asked the panel to focus on how the OEB's governance and operations can deliver better outcomes for customers. Specifically, the minister asked for a summary of stakeholder input and a formal public report. The public report is to contain recommendations on the OEB's internal governance structure, including opportunities to enhance transparency and accountability; options for utilizing policy expertise while protecting the independence of the adjudicative processes; and opportunities to better align the OEB's internal processes to enhance value for the sector.

The panel has drawn heavily on stakeholder consultations. In January, key stakeholders, regulatory experts, and the auditor general contributed views about the challenges facing energy regulation in the province. Seven key themes emerged:

1. The mandate of the OEB
2. Disruption and innovation
3. The governance framework
4. Stakeholder relationships and processes
5. The relationship to government
6. Regulatory excellence in benchmarking
7. Resourcing

In a second phase of consultations, the panel finalized its discussion notes and distributed them to encourage focused input. During March and April the panel met with 45 individuals and organizations in Toronto, London, Ottawa, Sudbury, and Thunder Bay. Stakeholders were asked for written submissions, and approximately 60 were received. Participants in these consultations included entities regulated by the OEB, industry associations, consumer advocates, regulatory lawyers, innovation technology developers, academics, and members of Indigenous communities.

Mr. Campbell highlighted the key points that emerged from each of the seven themes:

1. With respect to the mandate, there was general agreement that the OEB should focus on the core functions of economic regulation and consumer protection. Some stakeholders suggested an expanded mandate, including making innovation development a statutory objective, giving the OEB jurisdiction over all parts of the electricity bill, and providing greater oversight of the IESO. Others suggested trimming the mandate. For example, program administration is not seen as something

that fits well in a regulatory mandate. Some noted that telecom detachments might be better dealt with by other bodies.

2. With respect to disruption and innovation, the current regulatory framework is seen by some stakeholders as a barrier preventing Ontarians from fully reaping the benefits of innovation. They believe there is a lack of clarity about rate-based support for innovation. Other stakeholders argued that innovation should be approached cautiously, and that the private sector might be better positioned to take on risk. Overall, stakeholders want greater clarity and certainty in the regulatory treatment of investments in technology.
3. With respect to the governance framework, stakeholders expressed support for enhancing the OEB governance structure, with some suggesting that a board of directors be established to provide strategic direction, oversee performance, and make senior appointments.
4. With respect to stakeholder relationships and processes, stakeholders called for transparent processes in regulatory applications and in policy consultations. Some suggested the OEB would benefit from a review of the effectiveness of its current outreach activities.
5. With respect to the relationship to government, stakeholders said the OEB should have a strong degree of independence as a regulator. Some noted that having a prescriptive approach to governance and choosing directors for the OEB might be seen as compromising independence. Stakeholders also acknowledged the unique skill set of the OEB for contributing to policy development.
6. With respect to regulatory excellence in benchmarking, most stakeholders agreed that the OEB would benefit from developing a more robust performance measurement, a plan with meaningful key performance indicators, benchmarking, and regular public reporting. Full transparency is required.
7. With respect to resourcing, stakeholders agreed that an appropriate level of expertise must be in place. Funding the OEB from the rate base should be maintained. Some proposed greater oversight and transparency on how the OEB develops its financial and human resource requirements and for the cost assessments allocated to prescribed regulatory entities.

Having received the revised terms of reference, the OEB Modernization Panel has turned its attention to developing recommendations. The Modernization Panel will submit a final report to the minister by the end of this month. The challenge ahead is to integrate the regulatory framework with the innovation roadmap.

Comments

Mr. David Butters asked whether the recommendations would require statutory amendments. Mr. Campbell said the need for statutory changes is not seen as a barrier to recommendations.

Mr. Bentz asked whether regulators should have any particular expertise. Mr. Campbell said hearing from people who participated in the consultation and who have seen changes in their own businesses has been helpful.

Agenda Item No. 4: Innovation Roadmap Update (Input Item)

Ms. Katherine Sparkes said the purpose of the innovation roadmap is to engage in a dialogue on how the sector is evolving along with changes in consumer demand, emerging technologies, business models, and the use of existing technologies. The goal is to identify key challenges and opportunities and to prioritize the IESO's work with respect to learning, capacity building, enabling innovation, and increasing competition. Regulatory amendments will be required.

The IESO has distributed scenarios showing how the sector might evolve over the next 10 to 15 years.

Comments

Mr. Mark Passi referenced slide 5 in the handout, entitled "What is Innovation?" He said that for him, the "practically speaking" part is about cost reduction within the context of stranded assets. Ms. Sparkes said that with increased competition comes significant potential to have a positive impact on rates. Mr. Passi agreed, but suggested more emphasis should be put on costs and stranded assets.

Ms. Darlene Bradley said the IESO should focus on overall costs. Transmitters and generators are looking at half their rate increases being due to changes in load. Distributed energy scenarios will impact the final bill.

Mr. Bentz noted that emerging technologies could be substitutes for traditional delivery through the power grid. There is also a behavioural element in the desire of consumers to have more control. He asked whether the IESO has factored in the science of relative economics and the science of consumer behaviour to help determine the pace of disruption. Ms. Sparkes said these have not been looked at independently. The focus is to understand and be prepared for changes in consumer demand.

Mr. James Scongack said that when considering Ontario's history, he sees no evidence to suggest that a decentralized grid is cost-effective. There are no simple solutions in the energy sector. Pickering, which provides 15% of Ontario's electricity, is coming off line in five years. Storage and solar panels will not fill the gap. Innovation should include consideration of the bulk power system.

Mr. Nicolas Bossé suggested that the IESO focus its forecasting on better uses for old and new assets, allowing them to be positioned where needed.

Ms. Judy Dezell noted that Toronto residents are increasingly moving to rural areas because of high housing costs, and employees are increasingly working remotely. This, along with changing demographics, has impacts on the electricity grid.

Ms. Brandy Giannetta said the innovation roadmap as it stands is a distributed energy resources (DER) roadmap. There should be just one roadmap, incorporating both DER and existing assets.

Mr. Ted Leonard said he would like to know what concrete actions are being planned in the next few years.

Mr. Frank Kallonen echoed Ms. Bradley's suggestion to focus on overall energy costs. He said rather than having many projects operating in isolation, the IESO should recognize what part of the regulated monopoly business should be a shared cost.

Mr. Bentz said consumers do not stratify base load, intermediate, and peak pricing. They see one delivered price—a price that has likely doubled in the past 10 to 15 years, despite distributors delivering less power through the grid. The cost per unit delivered is dropping, and the costs of other technologies are also dropping. With respect to embedded generation and conservation, Ontario has gone from zero in 2005 to about 25 TWh today. The power that Ontario produces and delivers is eroding, and the erosion is not going to stop. Thus, it is important to optimize existing assets.

Mr. Butters noted that not all innovations drive efficiency and productivity. Referring to slide 13 in the handout, he asked how load serving entities (LSEs), which have not been discussed before, have come into the discussion of alternative outcomes. He asked what an LSE is an alternative outcome for. Ms. Sparkes said the point would require discussion.

Mr. Mark Schembri said there is little reference to Global Adjustment (GA). GA is a big impediment to Class B customers managing their electricity consumption to benefit the entire system. He asked whether the GA was strategically eliminated from the innovation roadmap. Ms. Sparkes said the cost allocation piece must be considered when preparing for changes in consumer demand.

Mr. Schembri asked whether it would be possible for the IESO to look at targeted conservation programs for Class B consumers that motivate the right electricity consumption characteristics. He asked whether the IESO is looking at this. Ms. Sparkes said there are no specific initiatives at this point. When real-time and pricing signals are sent to customers, customers and loads have a greater opportunity to respond to those signals.

Mr. Schembri asked whether the IESO has done work on the Industrial Conservation Initiative (ICI) Class A program in regard to its impact on critical and non-critical peak demand. Ms. Sparkes said the ICI and its impacts are being considered. Mr. Young said the IESO recognizes the ICI impact on system needs.

Mr. Leonard Kula said the IESO recognizes the importance of forecasting, and it will take on greater importance with the move to real-time dispatch, day-ahead markets, and the Incremental Capacity Auction (ICA). About six months ago, the IESO focused internal resources to bring together the forecasting activities.

Referring to the baseline scenario for 2030, Mr. Paul Norris said northwestern Ontario will be connected through the extension of transmission into 21 First Nation communities. The business case for innovation should be considered more fully, including the driver of generation and transmission development by First Nation communities. The outlook should capture the reality that an expectation of economic opportunity has been built for First Nation communities. As a broader public policy objective, the scenario is that the North is opening up.

Mr. Steve Baker asked about the cost model as Ontario transitions to DER. He raised a number of questions: If customers want to disconnect completely from the grid, will they escape all responsibility for cost? Do customers understand the economic decision to produce their own power? Will customers who do not disconnect bear a larger cost load? If so, this would be unsustainable. Do customers want to disconnect completely, or do they want grid backup? What is the true price of reliability, and who will pay? The gas-electricity interface is deserving of a scenario.

Mr. Bentz said it is important to model what percentage of customers will choose to go off the grid. The model should consider impacts on asset stranding, tariffs, and pricing reliability. Distribution tariffs will change from a rate-based, cost-based model to a standby charge, a transactional charge, and a market-based charge, and this has big implications for business models. The system will also move from a bulk capacity model to a more intelligent model that enables transactional energy at the edge of the grid as opposed to just bulk delivery.

Mr. Baker agreed with Mr. Bentz but stressed that not enough time has been spent on a cost model. It is difficult to evaluate a scenario without being able to overlay a base economic framework.

Ms. Julie Girvan echoed Mr. Passi's point that customers must be the focus. Innovation for the sake of innovation is not a good approach. Second, there is no overriding policy on standby rates. Third, price signals for customers will be difficult in the context of the Fair Hydro Plan. Competing objectives are challenging.

Mr. Butters suggested thinking about LSEs as a possibility for the future. Ms. Sparkes agreed.

Ms. Rachel Ingram agreed with Mr. Butters that LSEs have come out of nowhere. To Mr. Baker's point, demand response is an innovative asset that is cost-effective and competitive and can have expanded functionality.

Mr. Bossé noted that LSEs are not a market.

Mr. Leonard said slide 17 in the handout refers to an alternative outcome that is a minimum-size threshold of 50 kW for DER. He asked what is in the baseline scenario. Ms. Sparkes said the baseline is not known. There has been discussion about the need to look at how resources of less than 1 MW are enabled for participation in the market.

Mr. Kallonen suggested looking at jurisdictions to see how much of a role conservation plays versus new technologies. It might help to establish a tipping point and lay it against corporate price curves.

Mr. Butters suggested that the SAC receive an educational session next year about LSEs because there are misconceptions about how they fit with market renewal. Ms. Giannetta agreed about the need for a session on LSEs.

Mr. Norris said there is lots of innovation in storage.

Introduction to Agenda Items 5 and 6

Mr. Kula said planning and market renewal intersect with important implications.

The three energy stream initiatives within market renewal will significantly improve the way energy and some ancillary services are committed, dispatched, and priced in real time. This is not new. The IESO has been executing markets and processes in day-ahead, hours-ahead, and real time for the past 12 to 16 years. The IESO expects lower cost for ratepayers, better optimization for suppliers, and enhanced power system reliability. The high-level design for the single-schedule market (SSM) was recently published for stakeholder review, and work is under way on the detailed design. Reviews are under way for the high-level designs for the day-ahead market and the enhanced real-time commitment mechanism. Designs will be published this year.

Following a significant consultation with stakeholders, the ICA team is presenting preliminary design decisions this week. The high-level design for the ICA will be published in the first half of 2019. The ICA will provide a competitive and transparent mechanism to address capacity needs. The IESO will support the ICA by publishing expectations for future electricity needs. The first planning outlook was released in September. It shows a potential capacity gap in 2023 arising largely due to the retirement of Pickering A. The planning approach is to get information to the sector as quickly as possible, receive feedback, and adjust accordingly.

In December the 18-month outlook will be expanded to 60 months to aid in managing upcoming nuclear outages. The 60-month outlook will be published in the second and

fourth quarters of each year, while the traditional 18-month outlook will continue to be published in the first and third quarters.

The IESO is looking at how to implement solutions to support load growth in the Leamington area as well as how to meet the unique needs of the northwest with the likely delay of the in-service date of the East-West Tie.

Agenda Item No. 5: Planning Update (Input Item)

Mr. Chuck Farmer said Planning Day, which came out of a request for greater transparency, will take place annually. The next planning outlook will include an accumulation of conversations.

The weakest link in the planning outlook is demand forecasting because it has not been updated substantially since 2016. It is important to do annual updates. The IESO intends to draft a forecast and seek SAC input on it. The goal is to lock the demand forecast down for the next update by the end of the first quarter. The current plan includes approximately 30 TWh of conservation driven by codes, standards, and programs that will serve to flatten the load forecast.

In the reference outlook, a need for new capacity of about 1,400 MW emerges in 2023. The need increases to 3,700 MW in 2025 before plateauing to about 2,000 MW over the long term. This assumes that capacity from existing resources continues to be available post contract, which helps to defer and reduce the need for new capacity.

There are many uncertainties and assumptions within the planning process. While there is a goal in Ontario for resources to be self-sufficient, it is likely Ontario would also count on some amount of imports from neighbours. Another consideration is to what extent Ontario should account for uncertainty in nuclear refurbishment.

If Pickering is retired and there is a build-out of the natural gas and renewable energy fleets, no new energy will be needed.

The capacity gap will be at its height in 2025 when Pickering is fully retired; then it will come down as the nuclear fleet comes back into service from refurbishment. This speaks to a need for short-term procurement processes.

The IESO is committed to developing an ability to forecast ancillary services.

For the next six to nine months, discussions with stakeholders will attempt to narrow the uncertainties. Discussions about imports and capacity reserve margins will also be worked into the forecast. The next planning update will be released in 2019 and will show what is needed for 2023. Concurrently, the acquisitions team will begin its work.

Comments

Regarding the 1,400-MW or 3,700-MW shortfall, Mr. Bentz asked whether if one were to scale a load duration curve over the course of a year, the capacity gap would last for two days. Mr. Farmer said that is correct; it is a very short duration. Mr. Bentz asked whether the IESO would be looking to procure resources that can quickly ramp up but that will not be called on very much. Mr. Farmer said most of the energy shortfall is supported by the size of the gas fleet and an underutilization of the gas fleet. Gas will be setting the price on the margin, but the market can compete with that.

Mr. Scongack asked whether any short-term decisions are being made. For example, how many megawatts would be required on particular dates during the next 12 months? The IESO has an opportunity to make recommendations to the new government about reliability. Mr. Farmer said the purpose is to make such recommendations.

Mr. Passi asked whether the forecast includes the benefits that have been realized by the ICI program. Mr. Farmer said they are factored in. Mr. Passi asked whether the Pickering outage was unplanned. Mr. Farmer said the outage was caused by an algae bloom.

Mr. Bossé said more granular information is required so that stakeholders can provide the IESO with informed market solutions.

Mr. Leonard asked whether everything would be procured on a short-term basis in 2023 during the 1,400-MW gap. Mr. Farmer said the conditions support the use of short-term procurements to meet incremental capacity needs. Mr. Leonard said given that the IESO will be running a process outside the ICA in 2023, it appears the IESO will be contracting inflexible resources during the short term. Mr. Farmer said future discussions on ancillary services would include the need for flexibility.

Mr. Butters said there is a lot of potential flexibility in existing assets. Some inflexibility is driven by the structure of contracts. Referring to slide 21 in the handout, he noted that the GA peaks in 2027. In terms of affordability, that peak might be concerning for the energy minister. Mr. Farmer said there is a fair amount of uncertainty, and the numbers are presented as ranges. It may turn out to be a trough and not a peak.

Mr. Norris said the sector would be hard-pressed to bring on new capacity in 2025 due to the ICA timelines.

With respect to using short-term contracts to close the gap, Mr. Baker asked how anyone can know what incremental resources will be needed or what the lead time will be. It appears that the IESO has narrowed down the options to short-term contracts.

Mr. Farmer said the IESO is looking to the sector to identify what incremental resources will respond to the gap.

Comment from the Phone

Mr. Maurice Malka, TSI Services Management, asked how the accuracy of forecast affects the model. From European work, it appears that demand response brings an accuracy and predictability regarding available DER that did not exist until now, particularly with help from blockchain capability. Mr. Farmer said uncertainty happens in various time frames. He invited Mr. Malka into the discussions on demand forecasting.

Agenda Item No. 6: Market Renewal Program Update (Input Item)

ICA Update

Ms. Alexandra Campbell said an initial ICA would take place in 2023 for delivery in 2024. Initially in 2023 there will be an auction with a one-year forward period, a two-year forward period and a 3-year forward period. The steady-state plan for the ICA is to have a 3.5-year forward period. Discussions around closing the uncertainty gap will be a goal for next year.

A large slide deck was released last week covering preliminary decisions on the ICA. Stakeholder feedback is currently being collected. The timeline to produce the high-level design is spring 2019.

In September the IESO took participants through the auction steps from beginning to end and explained decisions that have been made. Stakeholders provided input in breakout groups. Themes included a desire for more detail, more transparency on system needs and clarity on the gap, availability of multi-year commitments, details on governance with respect to dispute resolution, risk mitigation, and locational details.

Comments

Mr. Baker referred to slide 7 in the handout, which says there is an expectation that any capacity secured for 2023 would be aligned with market renewal principles. It would be helpful to have clarity regarding what resources would or would not meet the gap. He said three years is not enough time to put new resources into play.

Comment from the Phone

Mr. Malka questioned why it is necessary to integrate and design the ICA in 2018 when the gap appears in 2023. He asked how the IESO knows a capacity auction is the best way to procure additional resources. Ms. Campbell said there is a strong benefits case for the ICA.

Energy Stream and Engagement Plans

Ms. Barbara Ellard and Ms. Jessica Savage outlined The SSM high-level design was published on September 22 and is now undergoing stakeholder review. Feedback is due on November 22. Day-ahead and enhanced real-time unit commitments are on track for

delivery in December 2018. They outlined that the SSM energy stream is about to transition from the high-level design phase to the detailed-design phase. This provides an opportunity to reflect on lessons learned from the high-level design engagement. It is proposed that the three work streams be restructured into work packages with common elements to ensure that the right experts are at the table while keeping in mind that the work packages will become integrated. For example, price formation will have to be developed for the day-ahead, inter-day and real-time markets. It makes sense to view this holistically as a work package rather than in separate work streams.

During the transition to detailed design, the IESO will focus on broadening the outreach, building capability, and tailoring engagement to needs.

Stakeholder review of the high-level design is taking place over eight weeks. A Q&A session is scheduled for November 2. Education and awareness sessions are scheduled between November 20 and December 11. By the end of October a draft detailed design engagement plan will be posted for comment.

Comments

Mr. Norris referenced slide 14 in the handout. He suggested this might be a good time to build capability for non-market participants. He has 120 small hydro assets that will be affected by market renewal. They will either become market participants or become aggregated as a market participant. He recommended bringing together all of the owners and operators of the assets expected to participate and help them to understand what their participation will look like.

Agenda Item No. 7: Third Party Access to MDM/R (Input Item)

Ms. Sorana Ionescu said the meter data management repository (MDM/R) was put in place 10 years ago for the purpose of enabling time-of-use billing for LDCs. It covers approximately 5 million smart meters within the residential and small commercial sectors, under 50 kW. About two years ago the OEB recognized the value in unlocking the data. Approximately 120 million records are now being added daily. The data now includes postal codes, distributor rate class, commodity rate class, and occupant change date. There are no personal identifiers within the MDM/R, so customer consent is not required. A robust process is in place to protect privacy.

The IESO will make a submission to the OEB on how third-party access will be provided by the end of 2018. It will entail a phased approach to see how the market responds and possibly refine the model.

The foundational pillars of this model are based on terms of access and the creation of ratepayer value. Cost recovery will ensure that ratepayers are not subsidizing the effort, and surplus funds will be credited to ratepayers. Treating the data as an asset and unlocking the value is new to the energy sector, but not to the Municipal Property

Assessment Corporation, the Canadian Institute for Health Information, and others who can serve as good learning ground for the IESO.

Comments

Mr. Bentz asked whether the IESO has looked at who in the market will use the data and whether there is a revenue model. He asked whether benefits will affect the smart meter charge and provide a rebate or eliminate the charge. Ms. Ionescu said municipalities, ministries, and academics have expressed a lot of interest. With respect to the revenue model, all surpluses will go back to ratepayers which could help offset operational costs.

Ms. Ingram said there is a rumour that the Smart Metering Entity and MDM/R could be cancelled, so finding a way to show the government that they are a money-making endeavour should be a priority. Ms. Ionescu agreed with the point and the supporting views expressed.

Mr. Passi asked whether any non-governmental agencies have expressed interest in paying for the data. Ms. Ionescu said she expects some will. Mr. Passi asked whether other utilities have recognized that non-governmental agencies are willing to pay for the data. Ms. Ionescu said some U.S. utilities are providing access, and there are discussions in other Canadian jurisdictions.

Mr. Kallonen said it would be unfortunate if the rumour were true, especially at this time when the value of the MDM/R can be extracted.

Comment from the Phone

Mr. Malka asked how fast data could be available for real-time interaction. Ms. Ionescu said it is hoped real-time interaction will evolve.

Agenda Item No. 8: Other Business

There was no other business.

Agenda Item No. 9: Adjourn

Mr. Bentz thanked everyone for participating. The next meeting will be held in 2019. The date has not yet been determined.