

What We Learned from Electricity Sector Stakeholders During Preconsultation

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Electricity Trade Sector Review

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1. Introduction

The Electricity Trade Sector Review (ETSR) was initiated by Measurement Canada in the fall of 1999. In consultation with sector stakeholders, the ETSR team is trying to:

- identify innovative means of ensuring that measurement accuracy and equity is achieved in the sector
- examine the limits to growth of our Accreditation Program for meter service organizations
- explore and recommend new ways and partnering arrangements for delivery of needed marketplace services
- establish appropriate marketplace performance indicators and monitoring mechanisms

The **purpose of this report** is to document the results of our preconsultations with stakeholders and to generate future dialogue.

This preconsultation stage was intended to involve a sample of stakeholders early in the design stage of our consultations so that stakeholder perspectives on both content and process could be incorporated. This report summarizes what we have learned. The contents of this report are to be considered preliminary only. More consultation and research are needed to confirm these preliminary findings and/or to expand upon the possible courses of action Measurement Canada might take.

We hope that this report provides a good status report on the project to all stakeholders. This report is being used as a background document to support the development of a draft, ETSR Discussion Paper which will be distributed widely in September 2000. Any comments that you have on this report would be appreciated. Please contact the ETSR Team by e-mail at ElecReview@ic.gc.ca or any of the ETSR Team members directly as follows:

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What We Learned from Electricity Sector Stakeholders during Preconsultation

2. Preconsultation Objectives and Method

Between January and September of this year, Measurement Canada's Electricity Trade Sector Review Team preconsulted with electricity stakeholders in order to:

- announce our upcoming consultation plans
- solicit initial input on intervention level and innovative service delivery ideas
- determine preferred consultation methods
- ask who else we should be talking to during this consultation

Stakeholders were selected from four provinces based on a Measurement Canada listing of stakeholder organizations. Preconsultation occurred generally through bilateral, face-to-face meetings, over the telephone and occasionally by e-mail. Our purpose was to scope stakeholder perspectives on both content and process. Consequently, we developed a representative sample of stakeholders for preconsultation. The following electricity stakeholders were contacted:

- Alberta Energy and Utilities Board
- Association of Major Power Consumers of Ontario
- Canadian Electricity Association
- Consumers Association of Canada
- Enmax Power Corporation
- Epcor Technologies
- General Electric of Canada
- Hydro Quebec
- Industry Canada Office of Consumer Affairs
- Independent Electricity Market Operator (Ontario)
- Manitoba Hydro
- Municipal Electricity Association (Ontario)
- Ontario Energy Board
- Ottawa Hydro
- Public Interest Advocacy Centre
- Restructuring Secretariat, Ontario Public Service
- Schlumberger Canada
- Toronto Hydro

3. What We Learned in Preconsultation

3.1 Marketplace Confidence is High

There appears to be a high degree of purchaser and vendor confidence in the electricity measurement system in Canada. This success in electricity measurement accuracy is due to the joint efforts of both the Canadian electricity industry and Measurement Canada.

The objective evidence of this is that relatively few complaints or requests for meter dispute testing are

referred to Measurement Canada each year. We compiled about 80% of all the available Measurement Canada data on disputes in fiscal year 1999-2000. The overwhelming majority of disputes are not caused by inaccurate metering. During 1999-2000, of the 1,708 disputes processed by Measurement Canada, 1,439 were found with no measurement based problem in the trade transaction.

In 1999-2000, \$6.9 million of customer account adjustments were generated during resolution of disputes by Measurement Canada. Of this, \$1.6 million went to the Purchasers and \$5.3 million went to the vendors. This seems to be a relatively small amount of inequity considering that the Canadian Electricity Industry generates gross annual operating revenues of about \$34 billion (1995) which encompasses all generation, transmission, and distribution of electricity in Canada.

The majority of available evidence indicates that measurement performance errors are due to incorrect installation of commercial and industrial metering devices or from errors in billing records. Frequently, Measurement Canada finds itself inadvertently functioning in a public relations role for utilities. Resolutions of most complaints are usually attempted by the customer service department of the vendor utility but very often purchasers and vendors prefer to have Measurement Canada Act as an independent third party for dispute resolution.

Can I count on my meter? The answer appears to be a resounding yes in Canada at present. However, vendors may naturally be somewhat reluctant to share statistics on the number and nature of customer complaints in an increasingly competitive marketplace. It is important to keep in mind that Measurement Canada is not involved in the resolution of all disputes and many utilities simply decide not to charge a customer when measurement error is caused by their own practices or devices. In many cases a mutual agreement between the two parties is the adopted solution without any involvement of Measurement Canada. Hence, increased cooperation among all parties in gathering and monitoring these statistics seems warranted.

3.2 Intervention is Making a Difference

The high level of confidence in electricity measurement accuracy may be related to the manner and degree of government intervention in the electricity marketplace in Canada. Further the Canadian electricity industry's efforts to ensure a high level of customer satisfaction, through its many different customer services including the provision of quality metering services, is a major factor. Continue the cooperation is in the best interest of both the electricity industry and Measurement Canada

It is not clear if commercial and industrial electricity consumers are as confident as residential consumers regarding the accuracy of their electricity meters. Further consultation is needed with these stakeholders.

To what extent should Measurement Canada continue to intervene in the emerging wholesale electricity marketplace? In Ontario, the Independent Electricity Market Operator has responded to metered market participants' needs by insisting that all revenue meters be Measurement Canada approved and meter service providers be eventually Measurement Canada accredited. Meter accuracy requirements

for this marketplace are a good deal tighter (0.2%) than those Measurement Canada typically enforces solely through the EGIA (1% to 3%).

Measurement Canada's intervention level seems "about right" for some stakeholders and "too much" for others. To quote one stakeholder: "Neither increasing nor decreasing Measurement Canada's level of intervention would be productive." To quote another: "There is tremendous pressure on Measurement Canada to stay in the sector."

On the other hand many major players in the industry said that:

"MC's technical regulations or draft specifications create technical barriers for implementing new metering technologies to better service our utility customers such as electronic meters and telemetering devices."

The same group composed of utilities, manufacturers and accredited MSOs indicated that "We are over regulated in many areas by Measurement Canada."

Preconsultation indicates that we are now pushing the limits of electro-mechanical meter accuracy performance requirements. Indeed, we were questioned by industry stakeholders about the cost benefit or justification for pushing this level any higher by making existing requirements any more stringent or by introducing new requirements applicable to existing technology.

We were told that Measurement Canada should re-think its insistence that all meter billing records are maintained for each revenue meter until six months beyond the life of the meter. This is an outdated requirement given the advent of frequent automated meter reading that today's technology is capable of and indeed is now doing in the wholesale marketplace. These records may also be somewhat onerous for some manual record keepers to maintain in an era when meters exceed 20 years of useful life and utilities themselves are frequently bought or merged with other organizations during that period.

Preconsultation also indicated that there is no national government agency in the U.S. that is solely focused on electricity marketplace measurement accuracy and equity issues as is Measurement Canada here. State agencies regulate utility behaviour and electricity meter performance using national consensus metering standards and model consumer protection legislation. The extent and nature of government intervention in the U.S. electricity marketplace vary with each State. More information on this subject will be confirmed through further research.

3.3 Specifications Development Process Requires Innovation

We heard that our standard's development process (i.e., the process we use to develop ministerial specifications for meter performance and testing requirements and procedures) is not always in keeping with marketplace participant expectations of timeliness and inclusiveness. There is a strong desire by industry stakeholders to be involved, from initial problem identification to final draft preparation, as more equal partners in the development of these specifications.

We were asked “Why is Measurement Canada developing all these new proposed technical specifications for requirements which did not exist before or are more stringent than existing requirements – especially given the high level of confidence and compliance in electricity measurement accuracy?”

Industry stakeholders also want more of a say in how far Measurement Canada goes in making mandatory, new metrological control rules which affect their operations and costs. Electricity consumers may be wondering how far Measurement Canada will go on their behalf as well. Consumers must play an increased role in the specifications development process to help Measurement Canada and industry find the appropriate cost/benefit/risk balance when developing performance requirements and test methods for new technology.

In the enforcement of specifications and regulations we found that there is occasionally a perceived lack of transparency and fair treatment by some industry stakeholders whenever they see that another industry stakeholder or group has received special dispensation from particular EGIA requirements for measuring equipment or practices. Implementing appropriate mechanisms to increase enforcement transparency and openness would alleviate these occasional perceived fair treatment problems.

We heard from a number of sources that for trade and competitiveness reasons, governments, industry and consumers must make increased use of international standards that already exist and also play a more active role in influencing the development of these standards. Making use of the national standards system and/or partnering arrangements with industry and consumers are suggested as ways Measurement Canada might modernize its approach to developing appropriate rules and requirements for new measuring technology. Government is accountable in legislation to Parliament via the Minister of Industry, for getting things right in trade measurement. Hence there is indeed a need by Measurement Canada to maintain control of its rule making processes so that the public interest is at all times safeguarded and competing interests are balanced.

3.4 Type Approvals and Traceable Calibrations are Needed

We found agreement from both purchasers and vendors on the added value and importance of our electricity meter type approval program. Vendors like this program because it acts as a screen for preventing meter types of sub-standard performance from reaching the marketplace. Consumers benefit as well for similar reasons. However, we also heard that timely evaluation of new meters and issuing of approvals is very important to the marketplace so that both purchasers and sellers can benefit from the higher accuracy and increased functionality that new technology brings (e.g., time of use meters).

In this regard, it was suggested that we consider moving more staff resources freed-up from previous meter shop inspection work into approvals testing of new meters. We also heard that Measurement Canada should seriously consider accepting type approval test results from other governments and from industry sources from within Canada and from other countries. It was also suggested that as Measurement Canada implements ways to speed up the approval process, care must be taken to avoid weakening the quality and confidence of this work.

We also found unanimous support for the notion that accurate electricity measurement depends on accurate test standards calibration and that an unbroken calibration chain (traceability) to national and international electricity measurement standards must be carefully maintained. However, meter service providers want more choice in whom they can obtain their calibration service from and faster service. Currently, only Measurement Canada and the National Research Council provide trade measurement and test equipment calibration service in the sector because of the high start-up costs and accuracy requirements involved in entering this business. Standards and test equipment traceability to the National Institute of Standard and Technology in the U.S. is desired by industry to reduce costs and service times in certain situations when convenient. More work is needed by Measurement Canada and potential partners to develop a solution that would be acceptable to all parties yet safeguard the integrity of the calibration system in Canada.

3.5 Meter Compliance Rates are High

Measurement Canada uses compliance rates to measure the degree of marketplace compliance with the EGIA requirements. Compliance rates are expressed as the percentage of meters found to be within the legal test tolerance for the type of meter and test indicated. What is an appropriate threshold target in the electricity sector? 80%? 90? 100?

Based on 1999-2000 data, residential electricity metering had an overall compliance rate of 98.2% for new meters, reverification (after rework or calibration) and installed meter population sampling tests conducted by both accredited meter verifiers and by Measurement Canada inspectors. It is important that accredited organizations continue to record all available test data to help MC in developing a monitoring system for the electricity sector. As examples, product audit, compliance sampling, inspection results will be sources to collect the data. Compliance rates for meters tested by smaller accredited utilities, or for billing and meter record keeping at contractor maintained sub-metering sites, may not be as high. More data are being gathered by Measurement Canada to explore this situation further.

For commercial and industrial meters such as multi-phase energy and demand meters, the compliance rate observed was 97.5% in 1999-2000 for similar types of tests. These compliance rates are very high and provide further evidence of the integrity of the electricity measurement system in Canada. However, preliminary information on some specific metering installation compliance rates (i.e., multi-metering, small vendors, etc) indicates that lower compliance rates may exist. As well, there is no Measurement Canada data available on the compliance rates of metering transformers which have a direct effect on accuracy are subject to type approval testing only and are pretested by the manufacturer only. It was noted that some Accredited Meter Verifiers (AMVs) have a policy of initially testing and periodically reverifying their instrument transformers and that typical test data is available. Further information is being sought on this subject.

We found general agreement that the costs of compliance are difficult to share fairly among stakeholders. The "good actors" and "bad actors" all bear the same public costs whether or not they are compliant and indeed the good actors bear the higher private costs which compliance entails. While defining stiffer penalties in the EGIA for non-compliance is indeed possible, this "cat and mouse"

approach to compliance puts too much onus on government to find compliance problems and initiate legal action to root them out. Consequently, Measurement Canada is seeking more proactive and effective ways of achieving marketplace compliance that will be more cost effective and shared fairly in the long term.

3.6 Enforcement Policy and Compliance Results Should Be Better Publicized

Measurement Canada enforces EGIA requirements by carrying out surveillance and product audits at accredited meter verifier, other utility and electricity contractor sites. As follows up to an audit, Measurement Canada staff use partnership approach to obtain compliance in a voluntary and timely fashion. In an extreme case, accreditation could be revoked should an organization fail to comply with a directive resulting from a major, non-compliance, audit finding. There are also fines and imprisonment penalties set out in the EGIA for inaccurate measurement or fraudulent practices. However, these types of penalties have not been applied in recent memory. Partnership has been more effective at the practice of convincing a party to comply with the EGIA requirements.

Preconsultation indicates that monitoring the number, types and outcomes of electricity meter disputes is a good indicator of marketplace confidence and overall performance. However, there appears to be little coordination among provincial regulatory, consumer protection agencies or Measurement Canada on data collection and reporting in this area. Measurement Canada at present has no internal system for efficiently collecting these sorts of statistics. There does not appear to be any public interest group that tracks this information either.

Other possible performance indicators include tracking the compliance rates: for various types of meter test results; for installation inspection results; for billing and meter record audit results and, for the results of surveillance and product audits of AMVs. Further dialogue is required with stakeholders on the validity of these and on other performance indicators that should be used to monitor marketplace measurement performance. Increasingly, more and more of this data is generated by AMVs. Measurement Canada no longer has a lot of current data and most of what it has is dated and exists only on the source documents.

During preconsultation, it was suggested that one possible outcome from this consultation might be publication of an EGIA compliance and enforcement policy for the sector by Measurement Canada. This document, written in plain language would state such things as Measurement Canada's role, the responsibilities of marketplace purchasers and vendors, our enforcement activities and policy, sanctions taken for non-compliance, public reporting requirements, alternative service delivery mechanisms used and our service standards.

An appropriate industry response might then take the form of a voluntary code of practice publicly stating participant's commitment to respect this compliance policy and how and on what frequency they would report on their compliance performance. This could go a long way to reassure consumers and Measurement Canada that compliance is indeed being achieved openly in an era where government has ceded meter testing to the private sector. The Canadian electricity industry is already a leader in such voluntary compliance programs with its Environmental Commitment and Responsibility (ECR) Program.

The ECR represents Canadian Electricity Association members individual and collective public commitment to the principles of sustainable development and includes public accountability and reporting. Further dialogue on this subject is sought.

3.7 Alternative Service Delivery Innovation Requires Further Study

Our Accreditation Program for Meter Service Organizations is popular with industry stakeholders. We heard great enthusiasm for the positive results that implementation of the mandatory quality management program has brought to meter shop operations. Stakeholders are generally pleased about the recent conversion to the ISO 9002 quality requirements regime. We saw growing evidence that being accredited by Measurement Canada is a seal of approval in the marketplace. Many industry stakeholders expressed interest in expanding the scope of their accreditation status further. Nevertheless, several things seem to be limiting growth of the Accreditation Program in this and other sectors at present.

Measurement Canada presently performs both the technical and quality management system audit using its own resources. It has been suggested that service capacity could be increased by recognizing the ISO 9002 audits performed by third party auditors at client sites. No technical procedures or requirements exist for metering installation audits thus limiting growth in this particular field. Where procedures and requirements do exist, interpretations by Measurement Canada take time to obtain and can occasionally lack consistency due to the evolving nature of the program. Clients are totally dependent on Measurement Canada's response for guidance and training as they seek initial accreditation or expansion of scope. They told us that they would benefit from having more third party assistance available in terms of management advice and staff training. Finally, the cost of obtaining and seeking accredited status coupled with the high costs of the requisite test equipment can make accreditation unaffordable for small meter service providers.

We learned that other innovative alternative service delivery vehicles remain to be identified and considered. For example, we found industry support exists for the way in which the Technical Standards and Safety Authority currently goes about its safety inspection business as a not-for-profit administrative agency in Ontario. We would like to explore the details of the Service Canada initiative. As well, we are interested in learning more about recent federal and provincial government regulatory and inspection functional community initiatives. We intend to investigate the potential for partnering arrangements with provincial energy boards in the handling and monitoring of consumer electricity metering complaints.

3.8 Stakeholders Want to Collaborate if Measurement Canada is Listening

Measurement Canada is going to great lengths to consult with its stakeholders and has set out an ambitious agenda for doing this in the electricity sector and potentially 28 other measurement intensive business sectors during the foreseeable future. To achieve both a client and citizen centered focus, Measurement Canada intends to provide the right services and oversight in measurement in the most cost effective, open and transparent way. We heard that despite our best intentions, we sometimes do not listen as well as we should. Consequently, we should consider implementing new innovative ways

of collaborating with stakeholders to satisfy Canadian expressed desire to participate more actively in government decision making.

It was suggested that Measurement Canada may wish to consider establishing an ongoing public advisory council made up of industry and consumer stakeholders to help guide its performance and to maximize its responsiveness and continued relevance to the marketplace. Such an approach could help avoid the potential for stakeholder consultation fatigue and more importantly, provide a more cost effective way for Measurement Canada to manage its ongoing relationship with both citizens and clients. It could also provide an effective way to increase agency accountability, transparency and openness to nicely complement the increased technical level dialogue recently begun between Measurement Canada and its stakeholders in the Canadian Forum for Trade Measurement. Establishing better links with the stakeholder community at all levels is beneficial. We are interested in ideas on how such a council might work.

Finally, we were told on several occasions that Measurement Canada must listen to stakeholders better or they may not be as willing to collaborate as generously in the future. It was suggested that Measurement Canada make better use of its front-line staff in soliciting and communicating stakeholder input from AMVs whenever Measurement Canada staff are on site in the conduct of their enforcement duties. Furthermore, while electronic means for document dissemination and consultation input is efficient, there is no substitute for face-to-face meetings to facilitate dialogue. Most stakeholders said they would participate in multi-stakeholder meetings or roundtables if sufficient notice is given. Some consumer stakeholders would require financial support to participate in such national or regional meetings or focus groups.

4. Next Steps

As mentioned earlier, the ETSR Team is preparing a draft Discussion Paper forecast for distribution to sector stakeholders in September of 2000. Among other things, this paper will:

- describe aspects of how our existing intervention programs work in the sector and our existing approach to compliance
- report on consumers' interests in accurate electricity measurement based on research by the Public Interest Advocacy Centre
- propose some directions Measurement Canada may consider in alternative service delivery innovation, in developing a new strategic approach to compliance and in partnering on monitoring and reporting
- ask for stakeholders' input on these issues and for additional ideas

The inputs obtained on the draft Discussion Paper to be distributed in September will be summarized in a report and sent back to stakeholders. At that time, we will be identifying the appropriate next steps for consultation.