

# SUPPLEMENTAL REPORT

## Supplemental Review of Accenture Assessment Report

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Hydro Quebec AMI System  
File R-3770-2011

Submitted By:  
Valutech Solutions Inc.

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For

GRAME

And

The Quebec Energy Board

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## Background

On January 18, 2012, Accenture submitted a supplemental report entitled “Assessment Report on Hydro-Quebec Distribution’s Lecture A Distance (LSD) Project” to Hydro Quebec for presentation to the Quebec Energy Board. This report was prepared for the purpose of assessing the overall status of Hydro Quebec’s LAD Project, and to provide certain “independent” recommendations concerning whether the project should move forward on the current schedule.

This letter contains my supplemental evaluation of the Accenture Report. In forming the following opinions, I have considered the information available to me for this filing that has been placed on the public record as well as the material contained in the Accenture Report.

## Contributors to the Accenture Report

In Section 1.1.4, Accenture provides a listing of 8 employees or consultants that have contributed to this report. Many of these employees have spent considerable time with Accenture soliciting and working on various AMI initiatives in North America. Sharon Allan, for example, is listed as being the “Senior Executive in charge of Accenture’s Global Smart Metering business practice”, which appears to place her in charge of the Hydro Quebec account and any efforts to obtain past and future business with HQ. It is therefore not reasonable to expect that the specialists listed in this section can be considered completely objective when providing recommendations for the LAD Project.

Hydro Quebec has stated in its authorization request and supplemental filings that Accenture was selected to help with LAD Project implementation. Section 4.2.2.2 of the application in part states:

“The Distributor also selected services from a consulting firm, Accenture, which will accompany it throughout the preparatory works and guide it during the implementation activities of the LAD project. In particular, Accenture provided the Distributor with its experience in the implementation of an AMI network and the best deployment strategies.”

It seems likely that engaging in a long term contract with HQ as described above could positively impact Accenture’s profitability, and that salary and bonus decisions for the involved employees could be favorably affected if the project were permitted to go forward. In our view, Accenture cannot then claim to be completely objective given its likely financial interest in ensuring that the LAD Project is authorized and moves forward with bulk deployment. Section 1.2 of the report also states that a “*collaboration*” among the Accenture specialists and project team members took place, which appears to cast doubt on Accenture’s objectivity and further compromise the results. The above quote points out that Accenture helped Hydro Quebec with “*the best deployment strategies*”. It is clear from this statement that Accenture cannot be expected to provide an objective evaluation of the LAD Project.

In Valutech’s opinion, the Board should therefore eliminate the Accenture report from any further consideration when deciding whether or not to permit Hydro Quebec to proceed with phase 1 of the LAD Project. More specific reasons will be provided in the following sections of this supplemental report.

## Evaluation of the LAD Project

Section 4 on page 12 of the report attempts to describe Hydro Quebec’s plans and motivation to implement an advanced metering infrastructure. The tone of this section appears to depart from an unbiased, objective position based on Accenture’s technical knowledge and expertise in AMI systems, and appears to interpret HQ’s own unstated motivations for implementing AMI.

For example, Accenture states in section 4.1 that HQ’s decision to implement AMI “*was a consequence of market observations*”, and Accenture then lists what are considered typical industry-wide reasons for

proceeding with AMI. No Hydro Quebec reference is provided to show that these are in fact HQ's stated reasons, which leads us to conclude that Accenture is playing more of an advocacy role.

Accenture then concludes in this section that even though HQ mostly cites operating efficiency as its principle reason for implementing AMI, we should be assured that the AMI system to be provided covers most functions *"that are usually targeted on the market"*. In our opinion, this statement is included to address any possible reservations that a decision made now could produce a system that is not compatible with future requirements.

## Summary of Evaluation

Accenture has provided an evaluation of the LAD Project based on what are considered to be nine *"AMI good practices"*. However, the specific baseline good practices that are used for analysis purposes have been deleted from the report due to their alleged confidential nature. If it is true that these nine analysis areas are in fact industry good practices, then we believe they should be publicly acknowledged as such. Deleting them from the report in effect obscures the baseline from which Accenture's observations and recommendations can be publicly vetted, and therefore discredits the report.

### Accenture's Observations

Accenture makes a number of observations in this section that are not substantiated in the report. The wording of statements made under the *"Observations"* category implies that Accenture's specialists have had an ongoing access to various stages of the scoping and procurement processes, and have either witnessed or participated in the requirements analysis, organizational development and procurement phases. This appears to be in conflict with prior statements that the preparers of this study were *"...not directly involved in the ongoing consulting mandate..."*

Several observations about the AMI system are made that Accenture has not independently verified. For example, Accenture states that *"the AMI system uses less than 5% of the total bandwidth"*. How can this be verified as an outside observer? What data and calculations have they reviewed? How does this compare with what Accenture calls *"AMI good practices"*? This claim has not been supported with data or analysis, and in our view is unsubstantiated.

Accenture also observes that *"various aspects of the project have been analysed, tested and tweaked"*, and that *"laboratory tests...have been successfully conducted"*. Which aspects and tests were included, and what data can Accenture provide to support these conclusions? Since the Accenture specialists participating in this study were not directly involved in the ongoing consulting mandate, and therefore could not have been present during these activities, it appears that they are accepting HQ's word concerning the results.

### Accenture's Recommendations

It is not clear why Accenture has decided to provide recommendations in section 4.2 when its mandate is to perform an assessment of the current project to determine if the project should proceed with phase 1. However, given the large number of recommendations that were provided with collaboration among the specialists and project team members, we reviewed them and believe that Accenture's own recommendations support a conclusion that additional time is needed in the pilot period to adequately prepare for phase 1 bulk deployment.

Among the recommendations Accenture provides are as follows:

1. Consolidate the deployment strategy and operational procedures before proceeding with the bulk deployment

2. Refine the steps needed to transition to normal operating mode
3. Use lessons learned during the pilot period to refine the bulk deployment strategies
4. Focus on project management aspects of the bulk deployment phase to improve deployment speed and coherence
5. Formulate the required scope of the MDMS development so that it can support new AMI features without increasing operating costs

### **Current vs. Future Benefits**

In section 4.3 of the report, Accenture appears to be making a case that Hydro Quebec has methodically examined the basic vs. advanced functions that can be provided with an AMI system, and has correctly concluded that limiting the current deployment to basic functions over the next 5 years is necessary and prudent. In our opinion, this minimal approach decreases the AMI system's return on investment and reduces the available utility and client benefits.

The Hydro Quebec Request for Authorization HQD-1, Doc 1 dated June 30, 2011 provides a general discussion of additional benefits that can be obtained through implementation of AMI. Figure 4 on page 18 of the authorization request presents what HQ considers are "*the main functions*" of the AMI system as defined by Accenture nearly 3 years ago in 2009. Given what Accenture stated in 2009, it does not seem credible for Accenture to now claim that the minimum benefits HQ will implement over the next 5 years of bulk deployment are consistent with industry practices and fully support the business case.

Accenture makes repeated references to the Hydro Quebec business case, but makes no attempt to validate it in the report. Valutech Solutions has not been given access to the business case, and it is therefore not possible to evaluate if all potential savings were included, or if any additional costs have been identified to provide for implementation of future benefits. However, analysis of publicly available material on the Landis+Gyr Gridstream system and Focus meters, the EnergyICT meter data management software and Elster meters, reveals that many of the features listed by Accenture in Figure 4 could be supported with the latest AMI system technology.

Without commenting on the potential to maximize value by implementing many of these additional benefits now, within the approved budget, Accenture states in its report that "*it is entirely sensible to limit*" the current benefits because it might "*compromise the development of future functionalities*". This reasoning appears counterintuitive and is contrary to typical industry practices to maximize the value of their AMI systems, and Accenture offers no supporting rationale. We disagree with this conclusion, and believe that a decision to delay many benefits so far into the future, possibly beyond 2017, will likely add to the overall project cost.

### **Acquisition Strategy**

Accenture has described in significant detail the overall process that was used by Hydro Quebec in soliciting four separate tenders for the AMI system, meter data management, meters and installation services. HQ's role as project manager and system integrator is also emphasized, and Accenture has characterized this process as "*an acquisition program as well as an integrated structure*". However, Accenture does not demonstrate how this arrangement has produced a more legitimate result.

Accenture contends that HQ's "*business requirements have been clearly defined and communicated*", and also that there has been a "*validation of these requirements at each key stage of implementation*". In our view, these statements could not have been contemporaneously verified by Accenture's outside specialists. These conclusions are therefore unsubstantiated and without merit.

While the Accenture report includes a detailed explanation of the vendor selection procedure, it provides no discussion or comparative analysis of other vendor proposals that were received during the bidding process in order to independently validate the selections made. Affirmative arguments are made for the vendors that were selected, but no reasons are given to explain why the other bids were deficient. As a result, the Accenture report provides no validation of HQ's rationale for selecting Landis+Gyr, EnergyICT, Elster and Capgemini over any of the other bidders.

Accenture provides no description of the process that was used to evaluate the various vendor proposals. The Accenture report does not describe what vendor scoring mechanisms were used or discuss how the technical features and functions were weighted and compared among the bidders. Nonetheless, page 23 of the report concludes that "*Landis+Gyr were proven the most beneficial of the suppliers of meters and NAN technology...*" Since the report makes no attempt to validate the technology choices and vendor selections that were made, this conclusion is unsubstantiated.

### **Evolution and Scalability**

One troubling aspect of the vendor selection process described by Accenture is the apparent decision to evaluate advanced functions *after* the Landis+Gyr system was selected. On page 25 of the report, Accenture states:

"Once Landis+Gyr was selected, Hydro-Quebec Distribution proceeded to analyse the potential for advanced features of Landis+Gyr's NAN network GridStream,"

We believe the potential for advanced features should have been examined *before* the selection was made as part of the overall vendor selection process. Without access to the specific vendor evaluation criteria used, Valutech Solutions cannot assess the methodology or merits of the Landis+Gyr selection. However, we believe that it is typical practice for an evaluation of future capabilities and adaptability of any AMI system to be completed prior to vendor selection.

When discussing the approach taken, Accenture cites two network features, remote broadcast of meter firmware upgrades and inclusion of a ZigBee card in the meter, as examples of future evolution that is supported in the Landis+Gyr solution. While we agree that these features are important and are supported by Landis+Gyr, it is also true that other AMI system vendors support these same functions. Selection of these features was therefore not dispositive in leading HQ to select Landis+Gyr.

As mentioned previously, Accenture also claims that scalability has been addressed for the addition of other smart grid functions by positively stating the following:

"The portion of the bandwidth used to transfer profiles and logs accounts for less than 5% of the overall capacity."

Accenture appears to accept this statistic as accurate without questioning its veracity or citing any independent studies or facts to support this conclusion. How was this figure calculated? What field tests have been performed to verify this result? How many meters, collectors and routers were used to create a representative NAN mesh network? None of this information has been provided in the report to support Accenture's conclusion.

Accenture speaks approvingly of Hydro Quebec's approach in providing for evolution and scalability as positive characteristics worth recognizing, without appearing to apply any of its own objective analysis to validate the methods used. If data and results have been independently scrutinized, Accenture has not stated this fact and provided the details of any of the analysis in its assessment report.

## Pilot Projects

Accenture has dedicated a significant portion of its report to discussion of the three pilot deployments and their roles in preparing HQ for full AMI system deployment. In fact, Accenture's key recommendation to move forward with phase 1 of the bulk deployment right now is based on what it contends is a successful completion of the pilot projects. From the information provided in the report, we cannot reach the same conclusion.

During the 2 year preparatory period beginning in June 2010, three separate pilots were initiated to support different objectives in preparation for full deployment. On page 30 of the report, Accenture outlines the three separate pilot areas and makes the following comment:

*"The volume and especially the representiveness of the installation types...are important criteria for a real-life experiment on all used cases that will occur in a large-scale deployment."*

With this statement, Accenture makes the point that a reasonable number of pilot meters should be deployed to fully test and validate the network functionality and meter deployment schemes before going forward with phase 1 deployment. While the general size of each pilot is discussed on page 30 of the report, no information is provided concerning how many meters have actually been installed in each pilot area.

In fact, when discussing the role of the Measurement Operations Center on page 31, Accenture mentions the success of the MOC *"given the low volume of meters deployed to date..."* It appears from Accenture's perspective that a certain volume of deployed pilot meters is essential to validate all technologies and processes, but that only a low volume has been installed to date.

Accenture completed an assessment of the pilot projects and the report provides a summary of the results which address the following seven categories:

- System Integration
- Network Functions Including Remote Reads and Remote Disconnect
- Meter Deployment Methods and Performance
- Organizational Processes
- Communications
- Validate the Business Case
- Scalability of Advanced Functionalities

Within the seven categories listed above, 19 separate requirements were listed as being important areas for analysis. Fourteen of these items were listed as important or very important requirements, and 6 of the 14 were determined to be still in progress at the time of this report. Given this progress and the reported low volume of meters deployed to date, we cannot agree with Accenture's subsequent conclusion that sufficient results have been obtained to warrant its recommendation that *"launching the large-scale deployment can take place right now"*.

As mentioned above, it appears that a relatively small number of new smart meters has been installed to date, from which to measure full network read performance, network latency and bandwidth. Hydro Quebec claims in its filings that simulation techniques and a *"proof of concept"* approach were used to calculate the projected network performance results. However, Accenture has not confirmed that contract requirements for read performance and latency are being met, or independently validated the accuracy of this approach.

Much of the early testing of the EnergyICT meter data management software and interface with SAP has been performed using the Heure Juste meters, which are earlier vintage meters that will not be read over the Landis+Gyr network. We believe that testing of the Heure Juste meters had only limited benefit, and additional re-testing is required upon installation of the new smart meters. No information was provided



concerning the current level of integration of the Landis+Gyr system with SAP, and HQ and Accenture have both stated that the remote disconnect and reset functionality will not be implemented in the pilot deployments. Despite these shortcomings, Accenture concludes that phase 1 deployment should still go forward now.

In October-November 2011, Hydro Quebec announced the selection of Capgemini as the service provider for installation of pilot meters in the Villeray neighbourhood of Montreal, of which 88% are inside meters. This announcement occurred just 3 months before issuance of Accenture's report. It does not seem likely that Capgemini could design, install and test a high volume meter change out work order system and integrate it with SAP this quickly. This leaves little time to complete sufficient numbers of inside meters for the Villeray pilot using the automated process. Given HQ's plans for changing out nearly 80,000 meters per month, we believe Capgemini's automated meter change out process and integration with SAP should be rigorously tested before the new system is used in a large-scale deployment environment.

No installation rate results have been provided for the Memphremagog region which includes rural areas and much vegetation. Minor differences in meter installation performance or the projected read rate for this region could produce significant changes in the estimated cost of deploying meters and network equipment. Accenture has not discussed the Memphremagog pilot results or confirmed that the estimated equipment requirements and read rates will be satisfactory in this area.

From the available information, it appears that the network equipment quantities including the number of collectors and routers that are required to achieve 99.4% read performance are being estimated based on simulation techniques applied using a relatively small pilot network. In our view, a small error in calculating the estimated read performance could lead to a significant increase in the number of collectors and routers needed in rural areas, which could increase project cost. Accenture has not provided any data in its report to verify the network design and equipment requirements, nor has it independently validated the expected meter reading rates using either industry data or the pilot results.

Wide Area Network (WAN) costs could also vary based on the number of collectors that are ultimately needed to meet contacted performance, which affects the number of satellite and cellular connections. Accenture does not express concern over the absence of satellite technology use in any of the pilot areas, and we cannot assess the merits or difficulties of using the satellite communications technology to supplement cellular since no information has been provided from Hydro Quebec.

### **Pilot Results**

In our view, the Accenture report does not provide convincing evidence that the pilot programs have been successfully completed and the results warrant going forward with full phase 1 deployment in June 2012. As mentioned above, the Accenture report shows that 6 of the 14 evaluation areas that were considered important, or very important, have not been completed as of the January 2012 date of this report. This appears to be in conflict with Diagram 1 on page 32 of the report which states that the business case costs and benefits are requirements that *"must be validated during the pilot phases of the AMI project"*. Accenture provides no documentation to support its conclusion presented in Diagram 2 on page 33 that these requirements have been achieved.

We believe Accenture's conclusion that *"large-scale deployment can take place right now"* is not supported by specific documentation of pilot results, and are concerned with the fact that there are a number of remaining open issues presented in their report.

### **LAD Project Performance and Risk**

On pages 35-43 of the report, Accenture provides a discussion of the seven LAD project categories that were listed above, and which have been included in Diagram 1 on page 32. Accenture attempts to address each area in order to assess whether or not to go forward with phase 1 deployment. We have examined each of these seven categories and make the following observations:

**1. System Integration.** Accenture points out the importance of system integration to the overall project but does not sufficiently describe the actual progress made. When describing the Heure Juste meter integration, Accenture does not mention that these meters will all be replaced, and that end-to-end re-testing of the new smart meters will be performed to ensure they can be read over the Landis+Gyr network.

Accenture makes the point that end-to-end testing of the system must take place to guarantee that interoperability of the system is achieved, but does not discuss what specific functionality will be tested or indicate when System Acceptance Testing (SAT) will be completed. Integration of the MDMS with SAP is discussed, but Accenture does not mention or express any concern over Hydro Quebec's response that SAP testing is only partially completed.

Accenture states that system performance testing, and simulation testing, were conducted to ensure that the network operates properly and provides the required bandwidth. However, there is no confirmation that it meets any baseline performance standard or that the Landis+Gyr network performance even meets contractual obligations. HQ has stated that the level of required network read performance is 99.4%, but has not explained how this metric is calculated. And Accenture does not certify this read performance level has been achieved beyond "*the meters deployed to date*".

**2. Network Functions Including Remote Reads and Remote Disconnect.** Accenture mentions that certain system features such as remote reading and basic operating functions have been tested, but does not provide any information on the overall result. The report states that AMI billing data is compared to read data coming from existing systems, but there is no discussion or analysis of the error rate verifying that the number of errors is at an acceptable level. Accenture does not apply any of its knowledge of AMI systems to confirm that the number of errors detected meets industry standards.

The remote disconnect function has been cited by Hydro Quebec as an important feature that will bring about some of the operating savings needed to justify the LAD project. However, HQ has recently stated that this function will not be operable until sometime after the Energy Board is expected to authorize phase 1 of the project. Accenture points out that the remote disconnect feature is not yet working, but does not raise any concerns about moving forward without it in its report.

**3. Meter Deployment Methods and Performance.** Two general areas of deployment are discussed, the installation of the new smart meters and the AMI network equipment. Accenture indicates that the service provider's meter installation rates have generally been achieved as planned. According to the report, nearly 10,000 meters have been installed, but Accenture does not state how many of these meters were located inside buildings, which is generally more costly to complete. Since Accenture provided the "benchmark" installation rates used by Hydro Quebec to calculate the projected LAD project cost, Valutech recommends that an independent accounting of the performance and cost is completed so that the project cost can be updated before proceeding with phase 1 deployment.

Installation of network equipment for the pilot projects was overseen by Hydro Quebec, and Landis+Gyr with the help of network topology studies used to determine the number of collectors and routers that would be required. The results of the actual pilot deployment quantities vs. the initial estimates have not been provided, and Accenture does not call attention to this issue as a risk factor with potential implications for network performance and cost. Accenture suggests that the topology studies for future phases have not yet been completed. This raises a concern that precise quantities of network collectors and routers are not yet known, even for phase 1.

Accenture also mentions in the report that the EnergyICT meter data management certification is not yet completed by Hydro Quebec, but the report does not state which tasks must still be finished. Accenture does not caution that this certification deficiency should be resolved before moving forward with phase 1 deployment even though MDM implementation was considered a major objective of the two year preparatory period.



**4. Organization Processes.** Accenture comments that organizational and procedural changes were made by Hydro Quebec to prepare for the pilot deployment and for system operation. While some examples of these changes are cited in the report, they could not have been contemporaneously verified by an independent Accenture team and are therefore of questionable value. Among the processes that were validated and refined, according to Accenture, is the meter installation process, which must be capable of managing and billing an estimated 80,000 meter changes monthly beginning in phase 1. Accenture provides no assessment of this important process or verification that the refined process is capable of handling such a large volume of meters.

Accenture points out that the operating procedures and operations center staffing must still be stabilised for the large-scale deployment. This statement does not reflect sufficient confidence that Hydro Quebec is prepared for the rigors of such a large scale deployment as will be encountered in phase 1. Accenture has not certified that HQ's organization, processes and procedures have reached the required level of proficiency and preparedness needed to manage phase 1 deployment.

**5. Communications.** Accenture states in its report that communications materials have been developed and are ready for bulk deployment. A complaint process has been established, and Accenture states that the complaint level has been consistent with other AMI projects. We assume this complaint assessment is based on a relatively small pilot deployment, and note that a relatively minor deviation in the rate of complaints could lead to a much larger volume of complaints received, based on the expected installation rate of 80,000 meters per month. Accenture provides no word of caution in this regard, but does point out that Hydro Quebec should be more proactive in its communications with clients.

**6. Validate the Business Case.** In several areas of this supplemental report, we have identified circumstances where Hydro Quebec could experience increases in the overall \$997 million project cost. For example, on page 40 Accenture asserts that a network topology has not been completed for phases 2 and 3 of the project, which increases the risk that the number of collectors and routers could be underestimated in the total project cost. Accenture did not attempt to quantify this cost risk in its report.

A second area of considerable risk is the cost of meter change outs by the service provider. Accenture initially provided the benchmark rates used to estimate the project cost. Since then, a contract has been signed with Capgemini which sets the terms of payment, and a number of inside meters have been changed in the Villeray section of Montreal. If the Villeray pilot has been completed, there should be sufficient data available to provide a more accurate installation rate. Accenture states that the internal installation time has been validated, but does not indicate that Hydro Quebec has revised the project cost.

With the additional information gathered from the pilot, we believe it is prudent to revisit the total project cost prior to proceeding with phase 1 deployment. Accenture expressed no concerns in this regard, and the report does not confirm the project cost even though Diagram 2 on page 33 shows that HQ's cost evaluation process has been completed.

**7. Scalability of Advanced Functionalities.** In its report, Accenture discusses the potential for implementing additional functions such as energy theft, 15 minute interval reads, ZigBee downloads and outage detection. Yet no attempt is made by Accenture's specialists to calculate the bandwidth requirements or estimate the affects of these additional functions on system latency. Accenture has restated Hydro Quebec's assessment that only 5% of the available bandwidth is used to support normal AMI system operations. However, no data or independent assessment of bandwidth or system response times (latency) has been provided by Accenture to validate this metric in its report.

## Conclusions and Recommendations

The Accenture report provides three conclusions and several recommendations. Accenture's conclusions have been addressed separately; Valutech Solutions' observations and assertions are based on documents provided in connection with the LAD filing as well as the material contained in the Accenture report.

### **Conclusion 1 – The point of departure and the motivations are of little importance, the choice of utilities has been AMI technology already for several years.**

Valutech Solutions generally agrees with the assertion that many utilities have recognized the importance of AMI technology to support a range of client as well as utility centric programs including energy efficiency and demand response. As utilities move away from carbon based fuels into hydroelectric, wind, solar and other renewables, there is a growing perception that time based pricing of electricity is an acceptable solution and promoting time-of-use rates is in the public interest.

Recognizing this migration toward AMI systems, however, the burden continues to rest on utilities to justify these systems through preparation of well thought out business cases, and to use their new AMI assets to provide maximum client as well as utility benefits. Most experts agree that utilities should focus on providing client benefits with their AMI systems in addition to improving operating efficiencies to save cost. Indeed, Accenture's own 2009 report, which was referenced in HQ's June 30, 2011 Authorization Request, identifies many benefits that are not currently being considered as part of the LAD Project.

In our view, the Accenture report fails to call greater attention to the objective of maximizing AMI system benefits beyond a general acknowledgement that some additional operating benefits could be achieved in the future. In documents filed with the Quebec Energy Board, Hydro Quebec has indicated that it will not look at implementing additional client benefits before the LAD project's conclusion in 2017. In its responses to questions, HQ further clarified that it might not even offer monthly billing unless the Energy Board authorizes all three project phases. Accenture has expressed no concern over plans to delay implementing additional client benefits during the 5 year deployment period.

### **Conclusion -2- Owing to its evolutivity and scalability, AMI integrates Smart Grid vision and initiatives**

We agree that there is no commonly held definition of the smart grid. Accenture rightfully cites the PARD and CATVAR projects as evidence that Hydro Quebec is moving ahead with other smart grid initiatives. Tentative plans for various other smart grid related functions, such as outage detection and theft detection are cited in the report, although an opportunity was missed to encourage implementation of energy efficiency and demand response initiatives that could be supported with AMI. Accenture does mention a possible future consideration of time-of-use rates, but does not point out that demand response and time-of-use rates are major drivers of AMI implementation elsewhere.

### **Conclusion -3- In the light of the pilot projects conducted by Hydro-Quebec Distribution and the results obtained to date, the launching of the large-scale deployment can take place right now**

Valutech Solutions disagrees with this conclusion. In our view, Accenture has focused its report more specifically on process vs. outcome, and has not made sufficient quantitative judgments based on pilot performance against certain defined project metrics. For example, Accenture cites the fact that Hydro Quebec has carried out a number of pilots as evidence that it is ready for full deployment. On page 46 of the report, Accenture states that: *"By carrying out this work, Hydro Quebec Distribution is assured that it understands the challenges linked to the deployment and operation of the AMI."* This conclusion is not supported by facts presented in the report.

On numerous occasions in this supplemental report, we have identified areas where outcomes are incomplete or unsubstantiated. For example, various areas of the report state that the EnergyICT-to-SAP interface is not fully tested, phase 2 & 3 topology has not been completed to determine collector and router requirements and the remote disconnect feature is not yet working. Hydro Quebec has not to our knowledge tested any Landis+Gyr collectors and meters using Rogers satellite technology, and Elster meters, which may make up 20% of the deployed meters have not yet been installed. Yet Accenture claims in its report that the requirements “were well covered” and “nothing of major importance was left out”.

Accenture also claims that “System performance meets expectations, including the transaction target volume simulation tests.” However, no data, analysis, calculations or other information has been provided to substantiate this claim, or affirming the validity of using simulation techniques in AMI system design. Some aspects of the design were confirmed by Hydro Quebec using a “proof of concept” method. Yet Accenture raises no concerns or objections to this approach.

Of significant concern is the relative imprecision with which the network equipment and installation costs associated with phases 2 and 3 deployment have been calculated. Network design methodology, satellite vs. cellular coverage issues, meter installation costs and other factors could produce higher than expected deployment costs in these areas. Hydro Quebec has not stated specifically how potential cost overruns would be handled for the three deployment regions if the Energy Board authorizes phase 1 deployment, and it then appears that the \$997 million total project cost figure will be exceeded.

Accenture has indicated in Diagram 2 on page 33 that the parameters of the business case have been updated, but to our knowledge Hydro Quebec has not produced a revised LAD project cost estimate using the pilot experience and firm contract cost data. While Accenture does provide a number of recommendations at the end of its report, it offers no opinion concerning the impact of these items on total project cost.

## General Conclusion

Valutech Solutions has reviewed the Accenture report and disagrees with Accenture’s conclusion that phase 1 bulk deployment can proceed right now. During our review of the report, we examined the observations and statements made by Accenture, and find many of them to be opinions that are unsupported by specific observations or facts. Many of Accenture’s observations, such as its belief that Hydro Quebec followed industry practices, are general statements of opinion that are unsubstantiated through use of industry data, analysis, calculations or other means. In many cases, the issues discussed could not have been witnessed firsthand, and some statements appear to accept Hydro Quebec’s results without being independently verified.

The Accenture report does not include any type of risk assessment that addresses unforeseen events or potential areas of risk that could have a material effect on project cost or performance. The nature of multi-year projects such as AMI is that unanticipated major events often occur that could negatively impact Hydro Quebec’s ability to complete the project on time and within the approved budget. While many unforeseen risks cannot be eliminated, most can be prudently managed through appropriate project contingency planning.


Technology risk, equipment shortages, extreme weather events, unanticipated staff shortages, and product and services delivery issues are just some of the risks that Accenture should have assessed prior to the start of full deployment. In particular, we believe Accenture should have provided an objective analysis of HQ’s simulation and proof of concept methods, and addressed the potential for cost overruns from higher installation costs, technology upgrades, satellite communications and network coverage issues, in its Project Assessment Report.

Throughout the Accenture report, there is a general absence of critical analysis and few questions have been raised over Hydro Quebec's cost projections, deployment methodology or incomplete pilot results. Many opinions are provided without supporting calculations or first person knowledge, and are provided in a manner that describes the process without rendering an informed judgment concerning the approach taken or the possible end result.

In conclusion, we find this report to be lacking in the critical analysis and challenging objectivity that is normally found in a project assessment report, and recommend that the Energy Board disregard the report when rendering a final opinion in this case.

Sincerely,

Edmund P. Finamore, P.E.



President  
Valutech Solutions Inc.