RESPONSES FROM HYDRO-QUEBEC DISTRIBUTION TO THE REQUEST FOR INFORMATION no. 1 FROM GRAME

I. Request Bearing on the Distributor's Proof

Reference

HQD-1, Document 1, page 8*: The evolvable technology platform will eventually make it possible to introduce new functions or services especially including the detection of failures and demand management.*

Question

1. Please clarify the expression *eventually* used in reference HQD-1, Document 1, page 8. Therefore indicate the intended timeline.

Answer 1: The expression "eventually" means that the Distributor will be, at the end of setting up the AMI and the replacement of the current meters with new generation meters, able to consider establishing other functions. No schedule of deliverables has been set for these new functions which will be the subject of a separate authorization request as needed.

See also the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

Reference

HQD-1, Document 1, page 9: *The LAD Project will lead to the creation by Landis+Gyr of a centre of excellence in the greater Montreal region which will employ up to 75 people.*

Questions

2. Please indicate whether the Landis + Gyr centre of excellence and the Measurement Operations Centre (MOC) are two different elements.

Answer:

The Distributor confirms that it involves two different items. The Landis + Gyr center of excellence is a center established and operated by Landis + Gyr. The MOC is the area where the Distributor operates the AMI with its own resources.

3. Please indicate whether the Measurement Operations Centre (MOC) will be operated by Landis + Gyr.

See answer to question 2.

Reference

HQD-1, Document 1, page 10:

The AMI IT implementation step, which will enable remote reading of new generation meters, provides for finalization of the IT integration, especially:
Development of communication links with the service provider tasked with installing the meters:
Development of the remote service cut off and restoration function
Establishment of the measurement operations centre (MOC)

Questions

4. You indicate that phase 1 provides for *finalization of the IT integration*, consequently, please indicate the progression of the AMI IT set up step.

At this time, the telecommunications infrastructure required for the pilot projects is completed. Integration of the meters with the acquisition front-end is finished. The measurement operations center has developed temporary processes for the pilot projects and is operational. Integration with the MDMS and partial integration with corporate systems like SAP will be performed in November 2011.

See also Section 4.3.1 of part B-006-HQD-1, document 1.

5. More precisely, please indicate whether:

    a. Has the *development of communication links with the service provider tasked with installing the meters* started?

        i. If yes, please indicate the steps done and the costs incurred.

Answer:

See answer to question 4.

    b. Has the development of the remote service cut off and restoration function started?

        i. If yes, please indicate the steps done and the costs incurred.

Answer:

See answer to question 4.

    c. Has the set up of the measurement operations centre (MOC) begun?

        i. If yes, please indicate the steps that have been accomplished and the costs incurred.

Answer:

See answer to question 4.

6. Please indicate the progress of deployment of the AMI and the Meter Data Management System (MDMS) developed by the Energy ICT company and integrated by the Ericsson firm, as well as the progress of the work done by Landis & Gyr or by other managers, illustrating the progression of the plan, the number of meters installed and the principal issues or changes occurring during the project.

Answer:

The installation of the AMI, including the meters, is currently completed for the pilot projects in Boucherville and Memphrémagog MRC. Meter deployment is still ongoing for the pilot project in Montréal (Villeray neighborhood) with the installation service provider. Today, nearly 10,000 meters have been installed.

See also the answer to question 4 and the answer to question 5.2 from the request for information number 1 from the Régie to part B-016-HQD-2, document 1.

Reference HQD-1, Document 1, page 12:

2.1. Market Context

Although recent, AMI technology corresponds to a major trend in the North American market; according to a survey of 128 public service companies conducted by Chartwell; nearly half have already started the installation of an AMI network and a further 20% plus, were either at the planning stage or in pilot projects. Figure 1 shows the progression of AMI projects in North America in 2010.

Questions

7. Is the AMI IT chosen by the Distributor the most recent technology? Please provide supporting proof.

Answer:

The Distributor is installing the most recent version available from the supplier.

8. In connection with benchmarking, other public service utilities and suppliers, is the deployment of an AMI IT, with the technologies used by Landis +Gyr, the preferred choice?

Answer:

The benchmarking done by the Distributor aimed to examine the AMI technology may be considered, and does not differentiate solutions from each other. The Distributor preferred the Landis + Gyr solution compared to the other solutions which were presented to it.

The supplier selected by the Distributor is recognized as a global leader in the AMI field and is the preferred choice of many public service companies comparable to the Distributor. As an example, please see:

http://www.idc-ei.com/getdoc.jsp?containerId=prUS22778411

9. Have other technologies been selected by other utilities in the last five years?

Answer:

Yes.

10. If yes, please describe them and indicate why they were not selected by the Distributor in this case.

Answer:

The Distributor's choice is the result of the request for proposals performed for the LAD project

Reference

HQD-1, Document 1, page 17:

2.2.4 *Grid Management and Business Opportunities* *In the beginning, the Distributor will stop at implementing the AMI IT for automating the meter reading process and cutting off and restoring service. Eventually however, the Distributor may wish to turn towards an intelligent network of the "smart Grid" type and this requires that their technology be able to enable the establishment of new functions.*

Questions

11. Please describe the steps necessary for arriving at implementing an intelligent "smart Grid" type network.

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

12. Please indicate which modifications will be required by the AMI IT for implementation of a **"smart Grid" type** intelligent network

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

13. Please indicate whether the architecture, or the overall layout of the equipment, will support the implementation of the **"smart Grid"** intelligent network.

Answer: See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

14. In the case that, a **"smart Grid" type** intelligent network is eventually established, please indicate what the differences are between "smart Grid" intelligent network and the **"smart Grid" type** network, if there is a difference.

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

15. Because, eventually, the Distributor is planning the deployment of a “smart Grid” type intelligent network, please explain the reasons and/or advantages of progressing in two steps.

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

16. Please describe technically the difference between the AMI technology platform architecture chosen by the Distributor and an intelligent network?

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

17. Please explain how the Distributor will ensure that the eventual integration with a “smart Grid” type intelligent network will offer the optimal performance required for implementing new functions.

Answer:

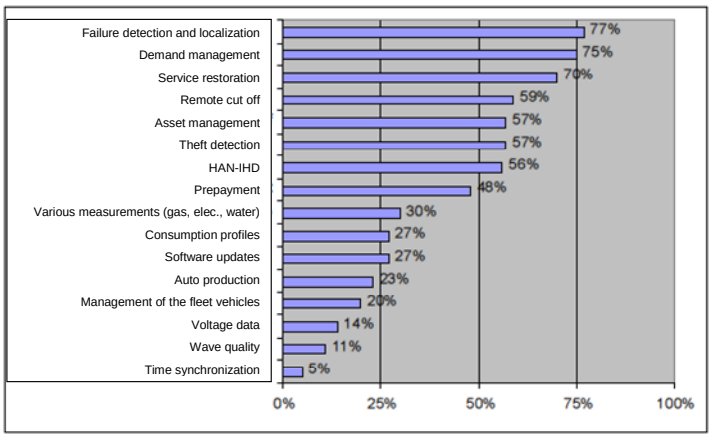
See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

Reference

HQD-1, Document 1, pages 17 and 18

2.2.4 Grid Management and Business Opportunities In the beginning, the Distributor will stop at implementing the AMI IT for automating the meter reading process and cutting off and restoring service. Eventually however, the Distributor may wish to turn towards an intelligent network of the "smart Grid" type and this requires that their technology be able to to enable the establishment of new functions.

Figure 1: Main Functionalities Used beyond Remote Meter Reading



Source: Accenture 2009

Questions

18. The Distributor clarifies in its proof (HQD-1, Document 1, page 17) that the technology selected will allow for the implementation of new functions. In Figure 4 (HQD-1, Document 1, page 18), a list enumerates the main functions used in addition to remote meter reading. Among these functions appears "Management of a fleet of vehicles." Does this involve electric vehicles?

Answer:

Yes.

19. Will the choice of technology used by the Distributor allow functions like electrification of the automobile fleet, in time, or within five years?

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

20. When charging stations for electrical vehicles are installed, will planning for the management of this load be covered by the Landis + Gyr network?

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

a. Please indicate whether the same network could be used or whether that means that the eventual “smart Grid” type intelligent network will need to have the same geographic “footprint”?

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

21. Please describe what the Landis + Gyr platform will do so that it will be possible for the Distributor to manage the load resulting from electrification of the automobile fleet.

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

a. More precisely, will the selected technology (equipment) be sufficiently powerful for data transmission in order to support the development of this option?

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

b. Will the Distributor have to modify the communications platform in order to be able to introduce this option? If yes, please describe the elements missing from the Landis + Gyr system.

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

c. Will other investments be necessary to implement such an option? If yes, what?

Answer:

The question is outside the scope of the present case (see part B-035).

Reference: HQD-1, Document 1, page 20:

The meters are interconnected by a local wireless network (Neighborhood Area Network – NAN), based on a radiofrequency mesh technology ("mesh network"). They are equipped with a 900 MHz radio frequency communication module. In order to guarantee the installation of a single telecommunication network for all of the distributor's needs, they will have a single card. Additionally, they have one ZigBee type card which provides communication between the Distributor's network and a possible household network (Home Area Network – HAN). The ZigBee technology 2.4 GHz at 100 mW, is the most widely used of the compatible cards and is currently installed (or will soon be installed) in many electrical household appliances.

Question

22. Concerning the choice of wireless interconnection technology (*neighborhood area network* – NAN), based on the radiofrequency mesh technology ("mesh

network") and a 900 MHz radio frequency communication module, please confirm whether all of the new meters will be equipped with two radios, one transmitting at 900 MHz and the other transmitting at 2.4 GHz?

Answer:

All new generation meters have a communication card with two integrated radios. The communication network dedicated to meter reading data transfer for billing purposes operates in the 900 MHz band (WAN). The domestic network is in the 2.4 GHz band and is provided for future needs (HAN).

Reference

HQD-1, Document 1, page 21:

Collectors and Routers

Collectors (mostly placed on Hydro-Quebec installations [distribution stations] or existing communication towers) are distributed throughout the various regions of the territory served by the Distributor. The function of each collector is to aggregate the consumption data from a set of meters located nearby for forwarding on a Wide Area Network (WAN).

The function of the routers installed on the Distributor's poles is to assure the geographic coverage of the NAN network on the periphery of the collectors.

Collectors subsequently transmit the acquired data to the acquisition front-end.

Telecommunications Network (WAN)

In addition to the radiofrequency mesh network connecting the meters, routers and collectors, the AMI requires the use of a WAN. The purpose of the WAN is to

interconnect the data acquisition front-end (located in the Distributor's IT centres) to the collectors. The telecommunication links used are cellular or satellite.

Questions

23. Please confirm whether the collectors, routers and meters will be able to directly gather information on the line voltage and therefore provide monetary savings for the CATVAR automation Project.

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

As for the impact on the CATVAR automation project, the question is outside the scope of the present case (see part B-035).

24. If yes, please explain the mechanism technically and indicate what equipment will allow for this application.

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

25. Please indicate whether this application will be available in Phase 1 of the project.

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

26. Please indicate whether this application will be available in Phase 2 and 3 of the project.

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

Reference

HQD-1, Document 1, page 27:

At the end of a request for proposals, the Hydro-Quebec Technology group selected telecommunication services provided by Rogers Communications Inc. The proposed solution is based on the use of a digital cellular service in areas where cellular coverage is available and satellite service where it is not.

Questions

27. Please indicate the annual costs related to the telecommunication service offered by the Rogers Communications Inc. company.

Answer:

In its decision D-2011-154 (section 27), the Régie accepted the Distributor's request to prohibit the disclosure, publication and release of the information contained in response to question 3.2 of the request for information number 1 from the Régie (part B-016-HQD 2, document 1), specifically the amounts associated with the telecommunications service provider by Rogers Communications Inc. including any consultation by the parties involved.

3.2 please indicate the amounts associated with this service and whether these costs are currently incorporated in the project costs. If the answer is negative, please indicate why.

Answer:

The amounts associated with the telecommunications services are included in the project charges under the heading "Telecommunications" in Table 4 part HQD-1, document 1. The amounts associated with this service are filed under confidential cover.

28. Please indicate whether the costs linked to the telecommunication services provided by Rogers Communications Inc. have been incorporated for all the years of the LAD Project functions, for Phase 1, Phase 2 and Phase 3.

Answer: Yes.

29. Please indicate the total telecommunications costs in the LAD Project for each of the Phases separately.

Answer:

See answer to question 27. See also Table 4 from part B-006 HQD-1 document 1, page 6.

30. Please indicate which telecommunication link (cellular or satellite) will be used for Phase 1 of the LAD Project.

Answer:

A cellular link is preferred, but a satellite link will be used when the cellular link is not available. The Distributor did not consider other options.

31. Please indicate whether change is planned for this link for Phases 2 and 3. Please provide details and indicate the evolutionary steps and technology necessary to support this evolution. Is it realistic in terms of technical and financial feasibility?

Answer:

See answer to question 30.

32. Should there be a change in the telecommunications options for coverage of the client base (such as communications satellite use) have the costs of satellite use been incorporated in the total costs identified for Phase 1, Phase 2 and Phase 3?

Answer:

See answer to question 30.

33. Please indicate the coverage percentage of the client base for Phase 1 of the LAD Project as a function of the planned telecommunications link (cellular or satellite).

Answer:

An agreement with Rogers Communications Inc. assures the Distributor of coverage for 100% of the collectors (cellular or satellite). Also see the answer to question 30.

34. Please indicate the coverage percentage of the client base for Phase 1 and 2 of the LAD Project as a function of the planned telecommunication link (cellular or satellite).

Answer:

See answer to question 33.

a. Please indicate the telecommunication link planned and the coverage percentage.

Answer:

See answer to question 33.

35. Please indicate the problems (technical and financial) connected to obtaining coverage for 100% of the client base.

Answer:

The contractual agreement includes performance guarantees and 100% coverage because the Distributor has an obligation to serve the clients located in its territory.

36. Please indicate whether the other public utilities, based on the benchmark filed under confidential envelope, are targeting 100% coverage of the client base.

Answer:

The Distributor does not have this information.

a. Please indicate the coverage targeted by these other utilities.

Answer:

See answer to question 36.

37. Concerning the wide public network (Wide Area Network – WAN), please indicate and explain why the Distributor did not develop its own communication network.

Answer:

See the answer to question 14 a) from the Outaouais ACEF to part HQD-4, document 2.

38. If the expertise is not present within the Distributor, please confirm whether the expertise exists within shared departments or the Group technology (Hydro-Quebec Transport) or any other Hydro-Quebec department.

Answer:

See the answer to question 14 a) from the Outaouais ACEF to part HQD-4, document 2.

a. If yes, please indicate these functions.

Answer:

Not applicable.

39. Please indicate whether the Distributor has already had discussions about setting up a private WAN network supervised by the Telecommunications department identified in the previous question.

Answer:

Not applicable.

a. If yes, please file any document or understanding arising in this regard.

40. Please indicate whether the Distributor had planned to call on this department for the development of a private WAN network.

Answer:

Not applicable.

a. If yes, please indicate the time (period) for the integration in the LAD Project.

Answer:

Not applicable.

41. Should it happen that a private area network is set up, would such a network need to interconnect with the Landis + Gyr acquisition central unit or could the data collection be done directly with the smart Grid network?

Answer:

The request is outside the scope of the present case (see part B-035).

42. Will it involve an optimal integrated network that will enable the use of all the measurement points (3.7 million meters), and is therefore directly connected to the smart Grid network?

Reference

HQD-1, Document 1, pages 21 and 22

Data Acquisition Front End and Measurement Data System *The MDMS and the data acquisition front end are systems located in the Distributor's IT centres. The enterprise systems are not designed for collecting data coming from an outside network. Implementing AMI technology therefore requires implementing an acquisition front-end for consumption data transmitted by a WAN.*

The acquisition of data by an acquisition front-end makes it possible to create a buffer zone between the meters and the enterprise systems thereby guaranteeing a higher level of security. The data are then transferred to the MDMS.

The enterprise systems cannot serve as a base for warehousing and validating a large volume of client consumption data. The Distributor has therefore acquired the system developed by the Energy ICT company. This MDMS was integrated into the enterprise systems with the collaboration of Ericsson. The MDMS sends the data to the enterprise systems allowing their use for billing purposes.

Once the software package is acquired, the data acquisition front-end and MDMS will address the Distributor's requirements which are to:

- *guarantee security in matters of availability, integrity and confidentiality*
- *provide a complete, evolvable and simple functional solution*
- *provide an open solution*
- *manage the growth of data processing, transport and storage*
- *provide ease of integration and interoperability with enterprise systems such as SAP*
- *implement an infrastructure which does not limit growth*

Questions

43. Please confirm whether the acquisition system developed by Energy ICT is part of the preparatory work.

Answer:

The Distributor has confirmed this.

44. Please confirm whether the MDMS has already been integrated with the enterprise systems with the collaboration of Ericsson, meaning that this work is completed.

Answer:

The work is not finished. See answer to question 4.

45. Please indicate whether the MDMS acquired could operate independently of the telecommunications technology choice selected for phase 1.

Answer:

The Distributor has confirmed this.

a. Otherwise, please explain the changes which would be required.

Answer:

Not applicable.

Measurement Operations Centre

Establishing an AMI involves moving some meter reading data acquisition and management function activities to an MOC. The purpose of this centre is to acquire, assure the reliability, produce and transmit consumption data. It also has an AMI monitoring role: tracking installations, turn-up of assets, monitoring and management of alerts and events, and administration and management of the AMI. The management of the security and execution of all service cut off and restoration actions of clients in collection will be done from the MOC.

Questions

46. Please indicate whether the cost of this centre on an annual basis has been incorporated in the analysis of the proposals over the project lifetime.

Answer:

The request is outside the scope of the present case (see part B-035).

47. Would this centre have been necessary with the smart Grid advanced platform installed from the beginning?

Answer:

The Distributor has confirmed this.

Reference

HQD-1, Document 1, page 23:

4.1 Scope of the Project

This prudent approach is dictated by the experience learned from some distribution companies who set-up a new generation meter deployment projects where the scope was too large. In some cases, the breadth of the scope made the project more difficult for the client base to accept, as they needed to get used to a new meter, new rates and new displays in their homes at the same time.

Question

48. Could the scope of the project, meaning the choice of technology, have included a smart Grid platform without immediately including time-based rates or other options, which could have been activated later?

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

II Questions about Risk Management, Network Reliability and Choice of Technology

Questions

49. Please indicate why the meter project seems to have been separated from the smart Grid project.

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

50. Please confirm that the Distributor seeks to eventually integrate an intelligent grid, meaning that it preferred a two step system.

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

51. Please indicate whether the technology selected by the Landis + Gyr meters could support an exchange platform between the client base and the Distributor that would provide for a return of energy produced by the client (solar or other energy).

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

52. Please confirm whether the meters are bidirectional.

Answer:

The Distributor has confirmed this.

See also the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

53. Concerning the management of the network and its reliability, please indicate whether in the case of a repair (planned or unplanned), the Landis + Gyr platform would be able to stop energy transmission upstream and downstream.

Answer:

Decentralized production and demand management options have no impact on the reliability of the network when re-establishing service following a failure. First, as it relates to integration of decentralized production, it has no impact on the reliability if the integration is done in compliance with the current standards from the E.12-XX series which are accessible from the production Internet site. Second, concerning the demand management options, they have no impact on the reliability because all the loads, independent of their type, are considered during the power demand forecast.

a. More specifically, considering the management of energy production distributed over some clients (consumers having solar panels, wind generators, etc.) and demand management options (energy efficiency programs, peak power management, management of electric vehicle charging stations, etc.) please explain how the network reliability risk will be considered and managed during repair operations on transformers and lines.

Answer:

See answer to question 53 a).

b. What technology selection items will need to be changed in the future to address this problem?

Answer:

See the answer to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

54. Some intelligent network applications demand very short latency times. Please explain how integration with the Landis + Gyr network could support these applications.

Answer:

The phrasing of this question is incomprehensible.

55. Please indicate whether management savings could be achieved with an intelligent network.

Answer:

Considering that one of the objectives of the LAD project is the acquisition of efficiency savings from automated consumption meter reading and remote service cut off and restoration a recurring annual savings of $81 million is expected as of 2018. The Distributor confirms this to be true.

56. Please indicate whether the 3.7 million meters, which could be voltage and current measurement points in order, among other things, to meet the

objectives of the CATVAR project, will be connected directly to the smart Grid network in time or instead via an interface to the acquisition front-end.

Answer:

The Distributor confirms that the new generation meters will be connected to its distribution network.

57. Will all Quebec residences eventually be directly covered by the possible "smart Grid" type intelligent network?

Answer:

The Distributor cannot answer this question for municipal and private networks, or, in particular, for the members of AREQ. However, the AMI network will eventually cover all Québec residences which are served by the Distributor.

58. Please explain the difference between a smart Grid network and the Landis + Gyr platform in terms of frequency, transmission speed, bandwidth and transmission power.

Answer:

See the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

III. Requests Related to the Presentation and Discussion during the Information Meeting September 14, 2011

References: part HQD-3, document 1 and HQD-1, document 1

59. Please provide a list of the selection and evaluation criteria, along with the weighting given to them, for: (1) the AMI system (acquisition front-end, servers, meter suppliers), (2) the data management system for the meters (MDMS) developed by Energy ICT, and (3) integration of the MDMS system by Ericsson.

Answer:

The request is outside the scope of the present case (see part B-035).

60. Please provide the list of selection criteria, along with the weighting given to them, for each of the pilot projects aiming to experiment with and confirm the level of connectivity, interoperability and security of the AMI[1] components for urban and rural zones.

Answer:

The request is outside the scope of the present case (see part B-035).

61. Please indicate how to apply the selection criteria for the content from Quebec.

Answer:

The request is outside the scope of the present case (see part B-035).

62. Please file a list for all the software, servers and hardware for: (1) pilot projects, (2) acquisition front-end and (3) the data management system (MDMS).

Answer:

The request is outside the scope of the present case (see part B-035)

63. Please indicate why the Distributor selected two suppliers for meters.

Answer:

The Distributor thinks that the supply-related risks are reduced by the presence of a second supplier. The addition of a third supplier would also bring about a particular reduction in the capacity of the Distributor to negotiate attractive prices based on a high-volume of meters and an increase in the technical complexity caused by the integration of several suppliers into a single infrastructure.

64. Please indicate how many proposals from meter suppliers the Distributor received.

[1] HQD-1, doc. 1, p. 23

Answer:

The request is outside the scope of the present case (see part B-035).

65. Please indicate why the Distributor selected only one supplier for the telecommunication equipment (900 MHz radio frequency).

Answer:

The suppliers' telecommunications cards which are included in the meters, routers and collectors are not inter-compatible. Choosing several models of cards would involve setting up several communications networks and additional front ends each of which would generate additional installation, training, integration and other costs. The Distributor therefore did not opt for this solution. The meters from the second supplier will use the communication cards from the first supplier.

66. Please describe the potential impacts on supply security and network hardware of only having selected a single supplier, meaning Landis + Gyr.

Answer:

In order to minimize the risk surrounding the fact that the Distributor has a single supplier, it considered the company's financial health and prepared an acquisition and deployment strategy which took this situation into consideration.

67. Please indicate the cellular technology choice (GSM/GPRS, CDMA/1X RTT, EDGE, EVDO, HSPA, LTE, etc.) used in the Landis + Gyr collectors and indicate how the Distributor will assure the durability of the cellular radio technology considering its rapid evolution.

Answer:

The request is outside the scope of the present case (see part B-035).

68. Please indicate whether the cellular technology used by the Landis + Gyr collectors is expected to disappear in the short or medium term.

Answer:

No. The Distributor selected the cellular technology offering the best coverage, while meeting performance and evolvability criteria at the best price.

a. If yes, please indicate the probable period (e.g., next five years, next ten years).

Answer:

Not applicable.

b. If yes, please indicate whether the longevity of the cellular technology used for the WAN in order to communicate with the acquisition front-end is under the control of the telecommunication service supplier, namely Rogers Inc.

Answer:

Not applicable.

c. If yes, please indicate the options planned by the Distributor when the telecommunications service supplier, namely Rogers, moves ahead with the modernization of its data transmission technology (obsolescence of GPRS, EDGE, HSPA, LTE, etc.)

Answer:

Not applicable.

69. Please indicate whether some regions of Quebec are at risk of having poor cellular coverage or none at all.

Answer:

See answer to question 30.

70. If yes, please identify technological solution that the Distributor plans to use in these cases.

See answer to question 30.

a. For these cases explain how the potential “smart grid” type intelligent network will interconnect with the Landis + Gyr network.

See answer to question 30.

71. What would be the impact for the Distributor on the durability of the telecommunications choices of having its own WAN communication network? Wouldn’t there be a savings to be gained from being able to control the telecommunication choice by having a private WAN network administered by the Distributor?

Answer:

See the answer to question 14 a) from the Outaouais ACEF to part HQD-4, document 2.

72. During migration of the cellular technologies, does the Distributor plan to replace the cellular radios from the collectors?

Answer:

The selected technology is one of the most recent and it is flexible (cellular and satellite). The Distributor is assured of having coverage for the length of the LAD project with possibilities for extensions. It does not foresee coverage problems in the near future.

b. If yes, are these costs taken into account for Phases 2 and 3?

Answer:

The request is outside the scope of the present case (see part B-035).

c. If no, please file an estimate of these costs and the period when they will become effective.

Answer:

The request is outside the scope of the present case (see part B-035).

73. Please supply descriptive mandates from each of the final contracts between Hydro-Quebec, Energy ICT (MDMS data management system), Landis & Gyr (acquisition front-end, servers, meters supplier) and Ericsson (MDMS system integration with the HQD network).

Answer:

The request is outside the scope of the present case (see part B-035).

74. Please supply a list of selected strategies, objectives and goals for the management programs for tested energy along with the documentation about the hardware, costs and expected performance.

Answer:

The request is outside the scope of the present case (see part B-035).

See also the response to question 1 a) from the Outaouais ACEF to part HQD-4, document 2.

Annexe

HQD-4, document 2: Question 1 a) Outaouais ACEF to part,

Reference:

HQD-1, Document 1, page 8:

"The evolvable technology platform will make it possible to eventually introduce new functions or services especially including the detection of failures and demand management." Emphasis added. HQD-1, Document 1, page 17:

"However eventually, the Distributor wishes to turn towards an intelligent "Smart Grid" type of network. Consequently, the Distributor required that the technology used by the new generation meter suppliers enable the establishment of new functions."

1 a) from the Outaouais ACEF to part HQD-4, document 2.

Question: Please indicate approximately how many years before the Distributor moves to the Smart Grid.

Setting up the AMI and installation of new generation meters are the basis for several functions of the "intelligent network" or "Smart Grid" or "Smart Grid type" network. Smart Grid can be defined this way: "Smart grid" generally refers to a class of technology people are using to bring utility electricity delivery systems into the 21st century, using computer-based remote control and automation. These systems are made possible by two-way communication technology and computer processing that has been used for decades in other industries. They are beginning to be used on electricity networks, from the power plants and wind farms all the way to the consumers of electricity in homes and businesses. They offer many benefits to utilities and consumers – - mostly seen in large improvements in energy efficiency on the electricity grid and in the energy users' homes and offices. (http://energy.gov/oe/technology-development/smart-grid)

An intelligent network can bring together several functions, such as described in Figure 4 from part B-006-HQD-1, document 1, page 18. These functions are described in the redacted benchmarking report from Accenture which will be filed under confidential cover under the classification HQD-2, document 2.1 for consultation by people working on this present case.

The intelligent network set up by the Distributor and also the installation of new generation meters will allow the implementation of each of the functions under the following conditions:

• Functions implemented must correspond to a need by the clients or Distributor.

• An analysis of the costs and benefits will need to be performed and demonstrate that setting up the function generates savings for the clients or for the Distributor.

Since these new functions have not been subjected to detailed analysis, the Distributor cannot provide further information on the costs which will be linked with their implementation. Nor is it able to indicate which will be developed and according to what implementation schedule.

In phase 1 of the LAD project, the Distributor chose to limit the scope of the project to setting up the AMI IT to the replacement of the new generation meters, meter reading automation and remote interruption and restoration of service, in particular for clients in collection.

See the answer to question 14 a) from the Outaouais ACEF to part HQD-4, document 2.

See the answer to question 14 a) from the Outaouais ACEF to part HQD-4, document 2.

Question 14 a)

Reference:

HQD-1, Document 1, page 27:

“At the end of a request for proposals, the Hydro-Québec Technology group selected the telecommunications services provided by Rogers Communications Inc.”

Question

a) Please explain the non-strategic nature of the Distributor’s subcontracted portion.

Answer:

The establishment of a large-scale telecommunications network as required for the operation of the AMI network is not part of the Distributor’s base mission. The addition of the development of such a network to match the scope of the LAD project would have considerably increased the risks, thereby going against the Distributor’s desire to minimize risks.

Additionally, the Distributor and other Hydro-Québec divisions do not have the necessary knowledge to set up and operate such a large-scale network as that required by the AMI.