

**SMART METERING ENTITY**

**RESPONSES TO TECHNICAL CONFERENCE UNDERTAKINGS**

UNDERTAKING JTC1.1:

To make best efforts to provide an analysis of calculation of depreciation for 2008.

RESPONSE:

The IESO amortizes assets in-service on a straight line basis over the life of the asset. Additions and adjustments to an asset are also amortized during the year and reflect the correct year-end net book value for the remaining service life of the asset.

The MDM/R was substantially tested and available for use in February 2008, and was placed in-service effective February 1, 2008 with an expected service life of 6 years (or 72 months). In March 2008, electricity consumption data from the MDM/R was used to generate time-of-use bills for the first time, marking the beginning of MDM/R production operations.

In September 2010 the expected service life was adjusted to 119 months reflecting an expected service life to December 2017.

**MDM/R Asset**

Year	In-Service Asset (\$000s)		
	As at Jan 1 <sup>1</sup>	Additions/Adjustment	As at Dec 31
2008	14,345	2,406	16,751
2009	16,751	1,457	18,208
2010	18,208	1,033	19,241
2011	19,241	5,802	25,043

1: February 1 for 2008.

**MDM/R Amortization Expense**

MDM/R amortization expense reconciliation based on assets in-service at the start of the year plus any additions/adjustments during the year:

Year	Amortization Expense (\$000s)		
	As at Jan 1 <sup>1</sup>	Additions/Adjustment <sup>2</sup>	As at Dec 31
2008	2,191	366	2,557
2009	2,792	289	3,081
2010	1,836	(136)	1,700
2011	1,940	589	2,529

1: February 1 for 2008.

2: Adjustment in 2010 reflects the change in service-life.

**MDM/R Net Book Value**

<b>Year</b>	<b>Net Book Value (\$000s) As at Dec 31</b>
2008	14,194
2009	12,570
2010	11,903
2011	15,176

UNDERTAKING NO. JTC1.2

To provide organizational chart and details on job duties for the 15 FTEs.

RESPONSE:

The attached document identifies the roles and duties of the 15 FTEs required to operate the MDM/R and fulfill the SME's obligations.

The obligations of the Smart Metering Entity (SME) as set out in the *Electricity Act*, are discharged through a combination of the efforts of IESO employees and IBM as the Operational Service Provider (OSP) under contract to the IESO. Formal authority to discharge the duties of the SME rests with the IESO. eMeter, under sub-contract to IBM, is the system developer of the EnergyIP software that is a key component of the MDM/R system. In support of day-to-day operations of the MDM/R there is no direct contact with eMeter by the IESO. IESO interactions with eMeter occur around the development and delivery of new releases and can arise in connection with issue and problem resolution.

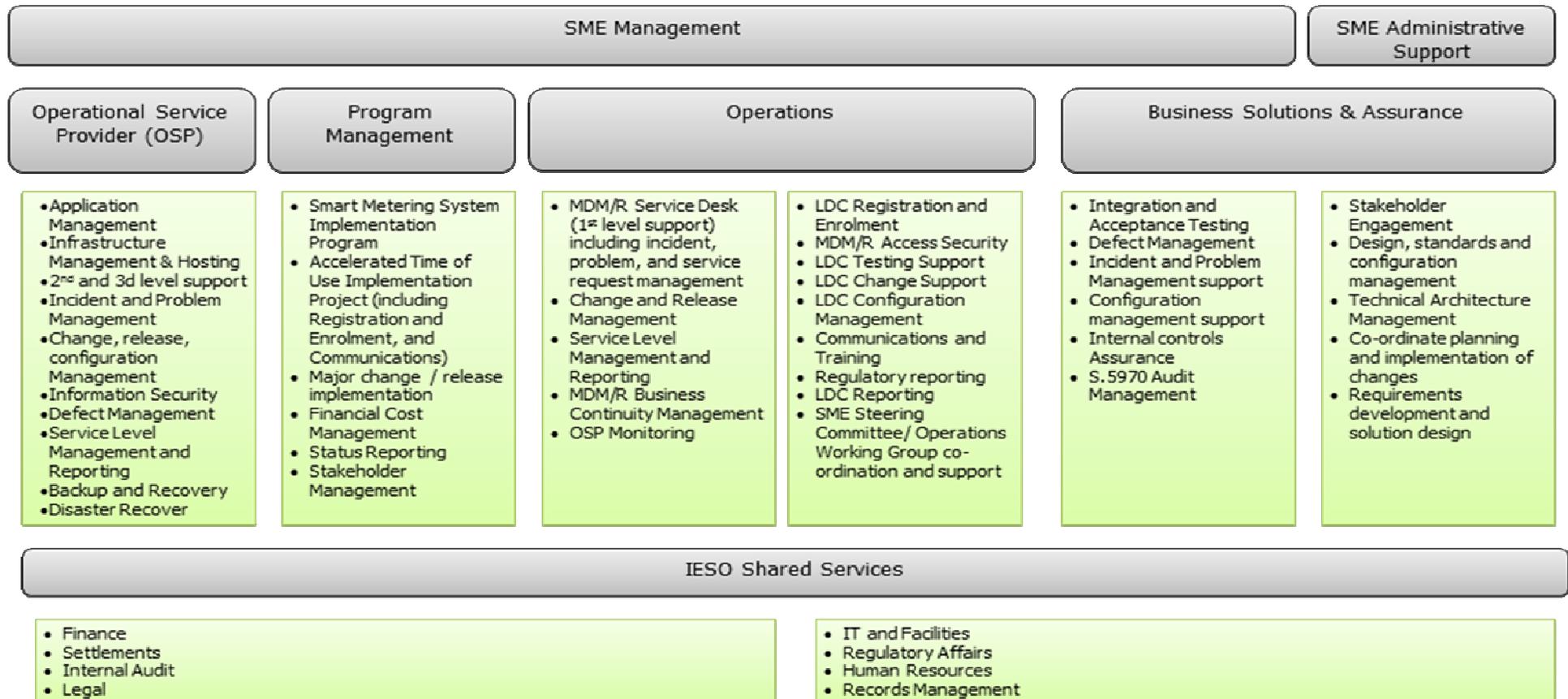
The SME is currently not an entity in its own right, but is a role assigned to the IESO by regulation (O. Reg. 393/07) under the *Electricity Act*. The day-to-day fulfillment of IESO's obligations as the Smart Metering Entity is fulfilled by the Smart Metering department reporting to the Director, Smart Metering within IESO's Organizational Development business unit. The Organizational Development business unit is headed by the VP, Organizational Development and Chief Information Officer.

The IESO has adopted a service delivery model, as outlined on the following page, in fulfilling its obligations as the Smart Metering Entity.

The IESO satisfies the operational duties assigned to it through a combination of staff dedicated to the support of the MDM/R and staff employed on IESO mainstream activity in support of the wholesale electricity market. IESO's responsibilities for delivering services have been assigned to senior managers and staff from the IESO, supported by contract and temporary resources.

The SME department is supported by 15 full time equivalents (FTE) to operate the MDM/R and fulfill IESO's Smart Metering obligations, and 5 to 7 contract and temporary resources for change initiatives and variable requirements. The SME is also supported by up to 2 FTEs from IESO's mainstream business, primarily in the areas of finance, settlements, legal, regulatory, information technology and human resources, and this support work is resourced on a time and material basis.

## SME Organization Services Overview



## IESO Smart Metering Department Functions Overview

The Smart Metering department is made of up the following IESO Staff functions and roles.

Function	Leads (FTEs)	Team (FTEs)
Management and Administrative Support	Director, Smart Metering (1)	Administrative Representative (1)
	Manager, Smart Metering (1 - vacant)	
Operations	Senior Engineer / Technical Officer - Operations Lead (1)	Engineer/Technical Officer - Operations (2)  Engineer/Technical Officer - Operations (1 - vacant, on account of retirement of 1 FTE)  Assistant Engineer / Technical Officer - Operations (2)
Business Solutions & Assurance	Senior Engineer / Technical Officer (Systems Analysis) - Quality Assurance and Architecture Lead (1)	Engineer/Technical Officer - Systems Analysis (2)  Engineer/Technical Officer - Systems Analysis (1 Vacant)
	Business Solutions Lead (1)	Assistant Engineer / Technical Officer - Systems Analysis (1)

### IESO Staff Job Functions, Objectives and Responsibilities (15 FTEs)

Job Function	Objectives and Responsibilities	FTEs
<b>Management and Administrative Support</b>	Direction and management of the Smart Metering Entity functions.	3
Director, Smart Metering	<p>Manage, direct and integrate the operations of the business group that fulfills IESO's obligations as the Smart Metering Entity (SME). Facilitate the overall development and implementation of the Smart Metering System Implementation Program (SMSIP).</p> <p>Develop the business group's overall direction to achieve approved programs and targeted results through delivery on the managerial accountabilities established for the SME</p> <p>Manage a group with full responsibility for goal setting, budget planning, overall business group results, human resource management including hiring, training, coaching, performance reviews and discipline, and ensuring staff work effectively to meet the business' goals and objectives.</p>	1
Manager Smart Metering	<p>Manage the operations of the Smart Metering business group, including overseeing service providers, to support the implementation of time-of-use billing across Ontario by operating the Meter Data Management/Repository (MDM/R) and integrating local distribution company (LDC) smart meters and systems with it.</p> <p>Support the development of the business group's overall direction to achieve approved programs and targeted results.</p> <p>Exercise full managerial accountabilities, including human resource management in the areas of hiring, staff development, training, coaching, performance reviews, salary matters, all aspects of performance management including dismissal,</p>	1

Job Function	Objectives and Responsibilities	FTEs
	administering work programs and ensuring staff work effectively to meet business goals and objectives.	
Administrative Representative	Provide administrative support to the department.	1
<b>SME and MDM/R Operations</b>	<ul style="list-style-type: none"> <li>• MDM/R Service Desk (1<sup>st</sup> level support) including incident, problem, and service request management</li> <li>• Change and Release Management</li> <li>• Service Level Management and Reporting</li> <li>• MDM/R Business Continuity Management</li> <li>• OSP Monitoring</li> <li>• LDC Registration and Enrolment</li> <li>• MDM/R Access Security</li> <li>• LDC Testing Support</li> <li>• LDC Change Support</li> <li>• LDC Configuration Management</li> <li>• Communications and Training</li> </ul>	6

Job Function	Objectives and Responsibilities	FTEs
	<ul style="list-style-type: none"> <li>• Regulatory reporting</li> <li>• LDC Reporting</li> <li>• SME Steering Committee/ Operations Working Group co-ordination and support</li> </ul>	
<p>Senior Engineer/Technical Officer - Operations Lead</p>	<p>Objectives</p> <p>Lead a team to ensure the effective operations of the Metering Data Management and Repository (MDM/R). Define and implement standards and methodologies for the operation of the MDM/R. Monitor the Operational Service Provider to ensure service recipient requests are responded to and addressed in a timely manner, and that the MDM/R operates within service level agreements and operating level agreements.</p> <p>Responsibilities</p> <ol style="list-style-type: none"> <li>1. Lead a team to ensure the effective operations of the Metering Data Management and Repository (MDM/R) within the parameters of the MDM/R Terms of Service and the Smart Metering Entity – Local Distribution Company (LDC) Agreement. Define and implement standards and methodologies for the operation of the MDM/R. Ensure processes, procedures and controls are followed for MDM/R operations processes to meet governance and audit requirements. Plan and coordinate significant upgrades/releases to the MDM/R. Lead the optimization of MDM/R Operations processes and tools through continuous improvement. Be accountable for the monitoring, integration and delivery of effective and efficient services and processes in such areas as: <ul style="list-style-type: none"> <li>• Change Management process</li> <li>• Incident and problem management processes</li> <li>• Business continuity</li> <li>• Oversight of the Operational Service Provider (OSP)</li> <li>• MDM/R service desk</li> </ul> </li> <li>2. Supervise assigned staff. Plan, organize, schedule and assign work with instructions, provide advice and direction, and be responsible for maintaining quality, accuracy, productivity, performance and skills development of staff. Develop and implement work methods. Deal with routine personnel problems and initiate recommendations to supervisor on personnel matters.</li> </ol>	<p>1</p>

Job Function	Objectives and Responsibilities	FTEs
	<ol style="list-style-type: none"> <li>3. Perform or coordinate the diagnosis and resolution of complex problems. Interact with Local Distribution Companies (LDCs) and the Operational Service Provider to discuss requirements, review alternatives and resolve problems or controversy resulting from conflicting views or objectives. Seek cost effective and practical solutions that effectively satisfy the needs of external stakeholders.</li> <li>4. Provide expert advice and guidance to Smart Metering Entity staff on highly complex technical issues related to the operation of the MDM/R. Deliver training to MDM/R service recipients (LDCs) and internal stakeholders on the MDM/R and MDM/R operations.</li> <li>5. Monitor the Operational Service Provider to ensure service recipient requests are responded to and addressed in a timely manner, and that the MDM/R operates within service level agreements and operating level agreements. Co-ordinate and integrate incident management and problem management with Operational Service Provider. Escalate incidents and problems to Operational Service Provider through established incident and problem management process. Coordinate with the Operational Service Provider on the implementation of changes to the MDM/R.</li> <li>6. Responsible for the maintenance, support and enhancement of the IT service management tools supporting the Operational Service Provider and the Smart Metering Entity/IESO.</li> <li>7. Responsible for providing reporting to SME management on status, issues, risks and actions with respect to MDM/R Operations.</li> </ol>	
<p>Engineers/Technical Officers</p> <p>Assistant Engineers / Technical Officers</p>	<p>Objectives</p> <p>Provide operational and customer-facing support and services to the Smart Metering Entity (SME) and for the Meter Data Management and Repository (MDM/R), ensuring that the SME and the MDM/R operate within service and operating level agreements, managing service requests, incidents, problems, changes, releases, system outages and business continuity events, and monitoring vendors.</p> <p>Responsibilities</p> <ol style="list-style-type: none"> <li>1. Provide operational and customer facing support and services to ensure the effective operations of the Metering Data Management and Repository (MDM/R) within the parameters of the MDM/R Terms of Service and the Smart Metering Entity</li> </ol>	5

Job Function	Objectives and Responsibilities	FTEs
	<p>– Local Distribution Company (LDC) Agreement.</p> <ol style="list-style-type: none"> <li>2. Develop and implement standards and methodologies for the operation of the MDM/R, ensuring processes, procedures and controls are followed for MDM/R operations processes to meet governance and audit requirements.</li> <li>3. Conduct, coordinate and mentor others in the planning and execution process activities and functions in the respective area of responsibility, such as: <ul style="list-style-type: none"> <li>• Incident Management</li> <li>• Problem Management</li> <li>• Change Management</li> <li>• Release Management</li> <li>• Project Management</li> <li>• Registration and Enrolment Management</li> <li>• Business Continuity Management</li> <li>• Access Management</li> <li>• MDM/R Service Recipient Regression Testing</li> <li>• Service Level Monitoring and Reporting</li> </ul> </li> <li>4. Coordinate and execute assigned operations activities, ensuring processes, procedures and controls are operating within defined agreements, service levels and requirements.</li> <li>5. Provide first level support in the response, diagnosis and resolution of service requests, incidents and problems.</li> <li>6. Resolve customer, vendor and internal stakeholder issues and conflicts, diagnosing problems, reviewing alternatives and determining solutions.</li> <li>7. Coordinate, develop and maintain process, procedure, technical and operations support documentation.</li> <li>8. Monitor the Operational Service Provider and other vendors, ensuring service recipient requests are responded to and addressed, and that the MDM/R and vendors operate within service level and operating level agreements. As assigned, administer vendor contracts including monitoring contract deliverables, review and approval of invoices in accordance with contract terms and IESO procedures.</li> <li>9. Identify opportunities for improving operations processes and supporting tools, conducting studies, assessing and presenting results, and providing recommendations to internal/external stakeholders.</li> <li>10. Develop and deliver training to internal and external stakeholders on assigned processes and activities.</li> <li>11. Co-ordinate the implementation of changes to the MDM/R with the Operational Service Provider, other vendors, MDM/R service recipients and other stakeholders.</li> <li>12. Participate in the organization, coordination, and control of multi-functional projects/initiatives involving internal and external stakeholders and service providers, managing assigned projects /change initiatives as required.</li> <li>13. Provide project management support to projects and team activities, ensuring assigned project plan deliverables are implemented and leading change/improvement implementation initiatives as required.</li> <li>14. Prepare required communications for internal and external posting.</li> </ol>	

Job Function	Objectives and Responsibilities	FTEs
	15. Prepare and communicate operational and management reports, including status, progress, performance, issues and risks. 16. Perform audits/tests of internal operating procedures to confirm compliance with control objectives. 17. Provide mentoring support and coaching to peers and more junior team members as required to facilitate learning and skill development. 18. Design, develop, maintain and implement updates and modifications to operations supporting tools. 19. Coordinate and undertake analysis of issues, performing root cause analyses and post implementation review assessments. 20. Create, coordinate and execute test plans for Business Continuity and Disaster Recovery Plans.	
Business Solutions and Assurance	<ul style="list-style-type: none"> <li>• Integration and Acceptance Testing</li> <li>• Defect Management</li> <li>• Incident and Problem Management support</li> <li>• Configuration management support</li> <li>• Internal controls Assurance</li> <li>• S.5970 Audit Management</li> <li>• Stakeholder Engagement</li> <li>• Design, standards and configuration management</li> <li>• Technical Architecture Management</li> <li>• Co-ordinate planning and implementation of changes</li> <li>• Requirements development and solution design</li> </ul>	6
Senior Engineer / Technical Officer – Systems Analysis  (Quality Assurance and Architecture Lead)	Objectives  Lead a team to provide business and systems analysis, design and quality assurance services to the Smart Metering Entity and for the Meter Data Management and Repository (MDM/R). Provide assurance that internal controls are operating as designed and audit requirements are met.	1

Job Function	Objectives and Responsibilities	FTEs
	<p>Responsibilities</p> <ol style="list-style-type: none"> <li>1. Lead a team to provide business and systems analysis, design and quality assurance services to the Smart Metering Entity and for the Meter Data Management and Repository (MDM/R). Provide assurance that internal controls are operating as designed and audit requirements are met. Define and implement standards and methodologies for quality assurance, systems analysis and audit. Ensure processes, procedures and controls are followed for assigned processes. Lead the optimization of assigned processes and tools through continuous improvement. Be accountable for the monitoring, integration and delivery of effective and efficient services and processes in such areas as:               <ol style="list-style-type: none"> <li>a. Analysis and documentation of business and technical requirements</li> <li>b. Design of information systems</li> <li>c. Change management</li> <li>d. Quality assurance and testing</li> <li>e. Problem and defect management</li> <li>f. Audit processes</li> </ol> </li> <li>2. Supervise assigned staff. Plan, organize, schedule and assign work with instructions, provide advice and direction, and be responsible for maintaining quality, accuracy, productivity, performance and skills development of staff. Develop and implement work methods. Deal with routine personnel problems and initiate recommendations to supervisor on personnel matters.</li> <li>3. Provide expert advice and guidance to Smart Metering Entity staff, MDM/R service recipients on highly complex technical issues related to the design, functions and testing of the MDM/R. Deliver training to MDM/R service recipients (LDCs) and internal stakeholders on the MDM/R and MDM/R testing, design and functions.</li> <li>4. Monitor vendors to ensure service recipients and Smart Metering Entity requests are responded to and addressed in a timely manner, and that the process objectives and operating level agreements are met. Co-ordinate and integrate problem management (including defect management) with the Operational Service provider, vendors and the SME MDM/R Operations team. Co-ordinate with MDM/R service recipients, MDM/R operations, the Operational Service Provider, and other vendors on the implementation of changes to the MDM/R.</li> <li>5. Responsible for providing reporting to SME management on status, issues, risks and actions with respect to Systems Analysis, Quality Assurance and Audit.</li> <li>6. Manage the planning and execution of internal and external audits of SME and MDM/R processes, functions and procedures. Support audit readiness by providing audit and internal control advice to the IESO and OSP teams. Co-ordinate interactions and support with external auditors, including supporting managing of relationship and contracts with external auditors.</li> <li>7. Provide project management support to solutions design projects and team activities, ensuring assigned project plan deliverables are implemented and leading change/improvement implementation initiatives as required.</li> <li>8. Research commercial products, tools and services to support information systems / tools design and development,</li> </ol>	

Job Function	Objectives and Responsibilities	FTEs
	<p>assessing their applicability and ability to meet current and future requirements.</p> <ol style="list-style-type: none"> <li>9. Provide technical support to projects/change initiatives, including the acquisition, development and implementation of software, infrastructure, services, enhancements and corrections to systems.</li> <li>10. Oversee test planning and execution activities, including directing and reviewing plans, test scenarios, test procedures, test data, expected test results, actual test results and assessments of test results. Where required, participate in execution of test plans, test scenarios, test procedures, and assessment of test results.</li> <li>11. Assess, recommend and implement improvements to MDM/R processes and internal control.</li> <li>12. Develop and deliver training on assigned processes and activities.</li> </ol>	
<p>Senior Engineer /            Technical Officer -            Business Solutions            Lead</p>	<p>Objectives</p> <p>Develop and co-ordinate the stakeholder engagement process for the Meter Data Management and Repository (MDM/R), changes to the MDM/R, new/changed standards and specifications. Assess stakeholder input and recommend changes to MDM/R. Act as a project manager or project participant for changes to the MDM/R. Manage the maintenance of MDM/R design, standards and specifications. Provide expert consultation to IESO management and service recipients on the MDM/R, Advanced Metering Infrastructure (AMI), and Smart Metering Entity services.</p> <p>Responsibilities</p> <ol style="list-style-type: none"> <li>1. Develop and co-ordinate the stakeholder engagement process for the Meter Data Management and Repository (MDM/R), changes to the MDM/R, new/changed standards and specifications.             <ol style="list-style-type: none"> <li>a. Coordinate and facilitate stakeholder/Local Distribution Companies (LDCs) meetings to provide a fair, open and transparent process for stakeholders to provide input and to help ensure interests of MDM/R stakeholders are appropriately represented.</li> <li>b. Hold consultations with individual and groups of LDCs to discuss and analyze all technical aspects of the operation of the MDM/R and LDC's integration of their business processes and information technology systems with the</li> </ol> </li> </ol>	<p>1</p>

Job Function	Objectives and Responsibilities	FTEs
	<p>MDM/R.</p> <ul style="list-style-type: none"> <li>c. Develop and implement communications strategy with respect to changes to the MDM/R, standards and specifications to ensure decisions and related rationale are communicated to stakeholders/LDCs and those affected by changes.</li> </ul> <p>2. Within the parameters of the MDM/R Terms of Service and the Smart Metering Entity (SME) – Local Distribution Company (LDC) Agreement, assess stakeholder input and recommend changes to MDM/R.</p> <ul style="list-style-type: none"> <li>a. Evaluate and assess changes taking into account the shared service environment of the MDM/R, stakeholder input, the varying interfaces and technologies deployed by the LDCs and their selected Advanced Metering Infrastructure (AMI) vendors, interests of regulatory bodies (e.g. Ministry of Energy, Ontario Energy Board, Measurement Canada), the risks and potential impacts to the MDM/R from the perspective of both the SME and LDCs. Assess the implication of alternative courses of action and the feasibility of such actions.</li> <li>b. Recommend appropriate solutions that fulfill contractual requirements and MDM/R service recipients’ needs. Prioritize need for implementation of solutions.</li> </ul> <p>3. Act as a project manager or project participant for changes to the MDM/R.</p> <ul style="list-style-type: none"> <li>a. Propose and manage projects to introduce changes to the MDM/R. Manage project activities through the effective use of project management principles and the specific methodologies adopted by SME to achieve timely project completion and meet the defined project business objectives. Coordinate activities of project team members throughout the project lifecycle. Maintain effective communication and coordination with the project sponsor/business owner to ensure that business objectives are met and any changes are clearly communicated.</li> <li>b. Contribute to defining business and technical requirements, and technical design to address requirements defined by external stakeholders.</li> <li>c. Exercise limited/periodic supervision over designated staff on projects.</li> </ul> <p>4. Manage the maintenance of MDM/R design, standards and specifications of the MDM/R.</p> <ul style="list-style-type: none"> <li>a. Support in identifying and resolving design and operations issues, including managing changes to the MDM/R.</li> <li>b. Technical lead interfacing with vendors to ensure proposed designs maintain the integrity of the MDM/R solution and meet IESO’s and stakeholder requirements.</li> <li>c. Ensure that MDM/R configuration is aligned to MDM/R standards and specifications. Ensure controls are designed and operating effectively to maintain alignment, including periodically reviewing configuration in production and proposed changes to configurations.</li> <li>d. Ensure standards, specifications and other documentation are revised to reflect changes to the MDM/R. Act as the authority for publishing MDM/R standards and specifications to the SME public website ensuring the overall accuracy of the documentation.</li> <li>e. Participate in determining the need for communicating technical information to external stakeholders.</li> </ul>	

Job Function	Objectives and Responsibilities	FTEs
	<p>Contribute technical expertise in the development of these communications.</p> <ol style="list-style-type: none"> <li>5. Provide expert consultation to IESO management and MDM/R service recipients on the MDM/R, Advanced Metering Infrastructure (AMI), and Smart Metering Entity services.               <ol style="list-style-type: none"> <li>a. Review proposed changes to the MDM/R and Smart Metering Entity services and provide technical expertise on impacts, risks and feasibility.</li> <li>b. Respond to inquiries from SME staff, LDCs, vendors, external auditors on the design, functions and operation of the MDM/R, including registration and enrolment requirements.</li> <li>c. Provide technical input, solutions and approaches to MDM/R Service Recipients for integrating their business processes and systems into the MDM/R.</li> </ol> </li> <li>6. Develop and deliver training to MDM/R service recipients and SME staff on the MDM/R, proposed changes to the MDM/R and/or MDM/R operations.</li> <li>7. Represent the company on assigned committees and task forces. Chair technical working groups, including Validation, Estimation and Editing (VEE) standards, Customer Information System (CIS) Working Group, and Advanced Metering Infrastructure (AMI) working groups with LDCs, vendors and other stakeholders. Represent the company on industry forums involving smart metering.</li> <li>8. Work collaboratively with other members of the SME to effectively implement the goals of the team within the context of the boarder corporate direction.</li> </ol>	
<p>Engineer/Technical Officer – Systems Analysis</p> <p>Assistant Engineer / Technical Officer / Systems Analysis</p>	<p>Objectives</p> <p>Provide business and systems analysis, design and quality assurance services to the Smart Metering Entity and for the Meter Data Management and Repository (MDM/R).</p> <p>Responsibilities</p> <ol style="list-style-type: none"> <li>1. Analyze and document business requirements, determining and defining functional and technical requirements.</li> <li>2. Design information systems, tools, data structures and databases, integrating commercial products as appropriate, to address business and technical requirements.</li> </ol>	4

Job Function	Objectives and Responsibilities	FTEs
	<ol style="list-style-type: none"> <li>3. Provide project management support to solutions design projects and team activities, ensuring assigned project plan deliverables are implemented and leading change/improvement implementation initiatives as required.</li> <li>4. Research commercial products, tools and services to support information systems / tools design and development, assessing their applicability and ability to meet current and future requirements.</li> <li>5. Provide technical support to projects/change initiatives, including the acquisition, development and implementation of software, infrastructure, services, enhancements and corrections to systems.</li> <li>6. Provide first level support in the diagnosis and resolution of testing issues, incidents and problems, including workarounds for identified defects.</li> <li>7. Provide second level support in the diagnosis and resolution of complex customer issues, incidents and problems, including workarounds for identified defects.</li> <li>8. Conduct, coordinate and mentor others in planning and executing process activities and functions within areas of assigned responsibility, including incident analysis, problem management, quality assurance/testing, release implementation planning and change impact analysis.</li> <li>9. Ensure assigned processes, procedures and controls are operating within defined agreements, service levels and requirements. As assigned, monitor that vendors operate within service level and operating level agreements, administer vendor contracts including review and approval of invoices in accordance with contract terms and IESO procedures.</li> <li>10. Develop and deliver training on assigned processes and activities.</li> <li>11. Identify opportunities to improve system design, functions and operation, conducting studies, assessing and presenting results, and providing recommendations to internal/external stakeholders.</li> <li>12. Coordinate, develop and maintain process, procedure, technical and supporting documentation.</li> <li>13. Develop and maintain test strategies for assigned areas of the system.</li> <li>14. Plan, develop and document test scenarios and procedures, including expected test results and test data.</li> <li>15. Execute tests, analyze and document test results.</li> <li>16. Design and coordinate the development of automated test procedures and results analysis.</li> <li>17. Identify, analyze, document and report testing incidents and defects to system vendors, service providers and customers.</li> <li>18. Develop workarounds to be used until system defects can be appropriately delivered and deployed.</li> <li>19. Maintain evidence of testing to meet IESO's system integration, user acceptance, and external audit requirements.</li> <li>20. Perform audits/tests of internal operating procedures to confirm compliance with control objectives.</li> <li>21. Provide mentoring support and coaching to peers and more junior team members as required, to facilitate learning and skill development.</li> <li>22. Prepare and communicate management reports, including status, progress, performance, issues and risks.</li> <li>23. Diagnose and resolve problems and conflicts with customers, vendors and internal stakeholders.</li> </ol>	

<b>Job Function</b>	<b>Objectives and Responsibilities</b>	<b>FTEs</b>
TOTAL SMART METERINIG ENTITY – IESO STAFF FTEs		15

UNDERTAKING NO. JTC1.4:

To provide a more detailed breakdown of costs shown in Exhibit C, Tab 1, pages 3 and 4.

RESPONSE:

See the attached tables.

More detailed breakdown of costs shown in Exhibit C, Tab 1, page 3.

Phase	Budget 2006 to Feb 2012	Actual 2006 to 2011	Actual Jan/Feb 2012	Actual 2006 to Feb 2012
<b>Phase 1 (Inception to MDM/R Contract)</b>				
IESO Staff Costs		\$ 421,779		\$ 421,779
Computer Support, Maintenance & Equipment		\$ 26,917		\$ 26,917
<b>Contract Services and Consultants</b>				
KEMA Consulting (completion of work initiated by the Ministry of Energy)		\$ 117,426		\$ 117,426
Legal Services		\$ 344,673		\$ 344,673
Fairness Commissioner		\$ 30,222		\$ 30,222
Contractors		\$ 617,502		\$ 617,502
Audit Fees		\$ 11,918		\$ 11,918
Administration		\$ 8,426		\$ 8,426
Telecommunications		\$ 393		\$ 393
Interest		\$ 16,349		\$ 16,349
<b>Total Phase 1 Costs</b>	<b>\$ 1,538,000</b>	<b>\$ 1,595,605</b>	<b>\$ -</b>	<b>\$ 1,595,605</b>
<b>Phase 2 (MDM/R Delivery)</b>				
<b>Phase 2 IESO Costs</b>				
<b>IESO Project Team Costs</b>				
IESO Staff Costs		\$ 1,297,326		\$ 1,297,326
Contractor Costs		\$ 2,099,152		\$ 2,099,152
<b>IESO Project Team Costs Total</b>	<b>\$ 3,456,000</b>	<b>\$ 3,396,478</b>		<b>\$ 3,396,478</b>
<b>Extended IESO Project Team Costs Resulting from Delayed Delivery (Partially Funded by Liquidated Damages)</b>				
IESO Staff Costs		\$ 1,168,257		\$ 1,168,257
Contractor Costs		\$ 1,890,312		\$ 1,890,312
<b>Extended IESO Project Team Costs Total</b>	<b>\$ 1,620,000</b>	<b>\$ 3,058,570</b>		<b>\$ 3,058,570</b>
Financing Expenses	\$ 188,000	\$ 197,866		\$ 197,866
Administration		\$ 1,755		\$ 1,755
Telecommunications		\$ 10,379		\$ 10,379
Other		\$ 3,517		\$ 3,517
<b>Expenses Total</b>	<b>\$ 15,651</b>	<b>\$ 15,651</b>		<b>\$ 15,651</b>
<b>Total Phase 2 IESO Costs</b>	<b>\$ 5,279,651</b>	<b>\$ 6,665,048</b>	<b>\$ -</b>	<b>\$ 6,665,048</b>
<b>Phase 2 Vendor Costs</b>				
Vendor Base Contract	\$ 12,300,000	\$ 10,600,000		\$ 10,600,000
Vendor Base Contract - Liquidated Damages for Delayed Delivery	\$ (1,500,000)			
Vendor Base Contract - Transfer to Phase 3 Vendor Costs	\$ (200,000)			
Vendor Base Contract - PST	\$ 864,000	\$ 788,000		\$ 788,000
Vendor Change Orders	\$ 2,512,315	\$ 475,377		\$ 475,377
Vendor Change Orders - PST	\$ -	\$ 24,002		\$ 24,002
Financing of Vendor	\$ 313,000	\$ 164,736	\$ -	\$ 164,736
<b>Total Phase 2 Vendor Costs</b>	<b>\$ 14,289,315</b>	<b>\$ 12,052,115</b>	<b>\$ -</b>	<b>\$ 12,052,115</b>
<b>Total Phase 2 Costs</b>	<b>\$ 19,568,966</b>	<b>\$ 18,720,679</b>	<b>\$ -</b>	<b>\$ 18,720,679</b>

Phase	<u>Budget</u> 2006 to Feb 2012	<u>Actual</u> 2006 to 2011	<u>Actual</u> Jan/Feb 2012	<u>Actual</u> 2006 to Feb 2012
<b>Phase 3 (MDM/R Operation)</b>				
<b>Phase 3 IESO Costs</b>				
<b>IESO Project Team Costs</b>				
IESO Staff Costs		\$ 5,153,969	\$ 296,774	\$ 5,450,743
Contractor Costs		\$ 1,735,367	\$ 362,730	\$ 2,098,097
<b>IESO Project Team Costs Total</b>	<b>\$ 8,512,308</b>	<b>\$ 6,889,336</b>	<b>\$ 659,504</b>	<b>\$ 7,548,840</b>
<b>External Fees and Expenses</b>				
Telecommunications		\$ 10,152	\$ 207	\$ 10,359
Administration		\$ 30,574	\$ 52	\$ 30,626
Computer Support, Maintenance & Equipment		\$ 82,814	\$ 59,584	\$ 142,398
Audit Services		\$ 662,622		\$ 662,622
Legal Services		\$ 95,407		\$ 95,407
Other Contract Services		\$ 12,608	\$ 6,059	\$ 18,667
<b>External Fees and Expenses Total</b>	<b>\$ 1,028,349</b>	<b>\$ 894,177</b>	<b>\$ 65,902</b>	<b>\$ 960,079</b>
<b>Regulatory Process: Licensing &amp; Cost Recovery (Legal Services)</b>	<b>\$ 250,000</b>	<b>\$ 93,036</b>	<b>\$ -</b>	<b>\$ 93,036</b>
<b>IESO Communications Support</b>				
Media Advertising for Test Marketing Campaigns		\$ 335,546		\$ 335,546
Market Research for Test Marketing Campaigns and LDC outreach efforts		\$ 146,093		\$ 146,093
Support materials for LDC outreach efforts		\$ 189,138		\$ 189,138
SME web-site		\$ 54,000		\$ 54,000
Administration		\$ 17,582		\$ 17,582
Telecommunications and Other Expenses		\$ 371		\$ 371
<b>IESO Communications Support Total</b>	<b>\$ 1,159,148</b>	<b>\$ 742,730</b>	<b>\$ -</b>	<b>\$ 742,730</b>
<b>Total Phase 3 IESO Costs</b>	<b>\$ 10,949,805</b>	<b>\$ 8,619,279</b>	<b>\$ 725,406</b>	<b>\$ 9,344,685</b>
<b>Phase 3 Vendor Costs</b>				
<b>Vendor Base Contract</b>	<b>\$ 30,797,000</b>	<b>\$ 26,926,352</b>	<b>\$ 967,970</b>	<b>\$ 27,894,322</b>
Vendor Base Contract - PST	\$ 2,095,632	\$ 1,204,645	\$ -	\$ 1,204,645
<b>Vendor Change Orders and Infrastructure Improvements</b>				
Vendor Change Orders	\$ 992,228	\$ 210,693	\$ 5,210	\$ 215,903
Infrastructure Improvements		\$ -	\$ -	\$ -
Service Level Credits (incl. PST)	\$ -	\$ (1,035,562)	\$ (51,508)	\$ (1,087,070)
Enhanced Support for LDCs	\$ 790,000		\$ -	\$ -
Vendor Change Orders - PST	\$ 11,677	\$ 11,677	\$ -	\$ 11,677
<b>Vendor Change Orders and Infrastructure Improvements Total</b>	<b>\$ 1,793,905</b>	<b>\$ (813,192)</b>	<b>\$ (46,298)</b>	<b>\$ (859,490)</b>
LDC Testing Facilities			\$ 63,623	\$ 63,623
<b>Total Phase 3 Vendor Costs</b>	<b>\$ 34,686,537</b>	<b>\$ 27,317,805</b>	<b>\$ 985,295</b>	<b>\$ 28,303,100</b>
<b>Transfer Budget to Unreleased Contingency</b>	<b>\$ (3,000,000)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Total Phase 3 Costs</b>	<b>\$ 42,636,342</b>	<b>\$ 35,937,084</b>	<b>\$ 1,710,701</b>	<b>\$ 37,647,785</b>

Phase	Budget 2006 to Feb 2012	Actual 2006 to 2011	Actual Jan/Feb 2012	Actual 2006 to Feb 2012
<b>Phase 4 (Accelerated TOU Rollout Plan &amp; OEB Mandate)</b>				
<b>IESO Project Team Costs</b>				
IESO Staff Costs		\$ 683,329	\$ 4,064	\$ 687,393
Contractor Costs		\$ 4,399,167	\$ 163,221	\$ 4,562,388
<b>Other Fees and Expenses</b>				
Computer Support, Maintenance & Equipment		\$ 47,792		\$ 47,792
Administration		\$ 6,362		\$ 6,362
Telecommunications		\$ 9,651		\$ 9,651
<b>Other Fees and Expenses Total</b>		\$ 63,805		\$ 63,805
<b>IESO Project Team Costs Total</b>	\$ 5,779,405	\$ 5,146,301	\$ 167,285	\$ 5,313,586
<b>Vendor Costs (Contract Services)</b>	\$ 3,270,595	\$ 2,889,714	\$ 180,954	\$ 3,070,668
<b>Total Phase 4 Costs</b>	\$ 9,050,000	\$ 8,036,015	\$ 348,239	\$ 8,384,254
<b>Release 7.2 and Measurement Canada 2011 Solution</b>				
IESO Staff Costs		\$ 107,856	\$ 1,157	\$ 109,013
Vendor Costs: Computer Support, Maintenance & Equipment		\$ 137,584		\$ 137,584
Vendor Costs: Contract Services and Consultants		\$ 6,850,456	\$ 1,122,556	\$ 7,973,012
Administration		\$ 4,023	\$ 669	\$ 4,692
<b>Release 7.2 and Measurement Canada 2011 Solution Total Costs</b>	\$ 9,733,170	\$ 7,099,919	\$ 1,124,382	\$ 8,224,301
<b>Measurement Canada 2012 Solution and Required Upgrades Total Costs (Vendor Costs: Contract Services and Consultants)</b>	\$ 2,916,097	\$ 83,769	\$ 237,961	\$ 321,730
<b>SME Corporate Costs (Legal Services)</b>	\$ 63,058	\$ 15,282	\$ 2,931	\$ 18,213
<b>Provision for Changes to the MDM/R and Contingency</b>	\$ -	\$ -	\$ -	\$ -
<b>SUB-TOTAL</b>	\$ 85,505,633	\$ 71,488,353	\$ 3,424,214	\$ 74,912,567
<b>Financing Costs</b>	\$ 3,488,684	\$ 2,312,559	\$ 231,687	\$ 2,544,246
<b>TOTAL</b>	\$ 88,994,317	\$ 73,800,912	\$ 3,655,901	\$ 77,456,813

Breakdown of costs shown in Exhibit C, Tab 1, page 4

Phase	Actual	Forecast						Total
	'06 to '11	2012	2013	2014	2015	2016	2017	2006 to 2017
Phase 1 (Inception to Contract)	\$ 1,595,605							\$ 1,595,605
Phase 2 (MDM/R Delivery)	\$ 18,720,679							\$ 18,720,679
<b>Phase 3 (MDM/R Operation)</b>								
<b>Phase 3 IESO Costs</b>								
<b>IESO Project Team Costs</b>								
IESO Staff Costs	\$ 5,153,969	\$ 2,965,389	\$ 3,362,373	\$ 3,321,467	\$ 3,498,916	\$ 3,603,883	\$ 3,712,000	\$ 25,617,997
Contractor Costs	\$ 1,735,367	\$ 2,858,971	\$ 2,584,384	\$ 2,075,973	\$ 2,147,572	\$ 2,211,999	\$ 2,278,359	\$ 15,892,625
<b>IESO Project Team Costs Total</b>	<b>\$ 6,889,336</b>	<b>\$ 5,824,360</b>	<b>\$ 5,946,758</b>	<b>\$ 5,397,440</b>	<b>\$ 5,646,488</b>	<b>\$ 5,815,882</b>	<b>\$ 5,990,359</b>	<b>\$ 41,510,622</b>
<b>External Fees and Expenses</b>								
Computer Support, Maintenance & Equipment	\$ 82,814	\$ 166,250	\$ 128,023	\$ 131,864	\$ 135,820	\$ 139,894	\$ 144,091	\$ 928,755
<b>Contract Services and Consultants</b>								
Audit Fees	\$ 662,622	\$ 182,104	\$ 187,567	\$ 193,194	\$ 198,990	\$ 204,960	\$ 211,108	\$ 1,840,545
Legal Fees	\$ 95,407	\$ 75,000	\$ 77,250	\$ 79,568	\$ 81,955	\$ 84,413	\$ 86,946	\$ 580,538
Other	\$ 12,608							\$ 12,608
<b>Contract Services and Consultants Total</b>	<b>\$ 770,637</b>	<b>\$ 257,104</b>	<b>\$ 264,817</b>	<b>\$ 272,762</b>	<b>\$ 280,944</b>	<b>\$ 289,373</b>	<b>\$ 298,054</b>	<b>\$ 2,433,691</b>
Administration	\$ 30,574	\$ 74,000	\$ 76,220	\$ 78,507	\$ 80,862	\$ 83,288	\$ 85,786	\$ 509,236
Telecommunications	\$ 10,152	\$ 11,000	\$ 11,330	\$ 11,670	\$ 12,020	\$ 12,381	\$ 12,752	\$ 81,305
<b>External Fees and Expenses Total</b>	<b>\$ 894,177</b>	<b>\$ 508,354</b>	<b>\$ 480,390</b>	<b>\$ 494,802</b>	<b>\$ 509,646</b>	<b>\$ 524,935</b>	<b>\$ 540,683</b>	<b>\$ 3,952,987</b>
<b>Regulatory Process: Licensing &amp; Cost Recovery (Contract Services - Legal Fees)</b>								
Regulatory Process: Licensing & Cost Recovery (Contract Services - Legal Fees)	\$ 93,036	\$ 250,000	\$ 154,500	\$ 159,135	\$ 163,909	\$ 168,826	\$ 173,891	\$ 1,163,297
IESO Communications Support	\$ 742,730	\$ 50,000	\$ 51,500	\$ 53,045	\$ 54,636	\$ 56,275	\$ 57,964	\$ 1,066,150
<b>Total Phase 3 IESO Costs</b>	<b>\$ 6,633,148</b>	<b>\$ 6,632,714</b>	<b>\$ 6,633,148</b>	<b>\$ 6,104,422</b>	<b>\$ 6,374,679</b>	<b>\$ 6,565,919</b>	<b>\$ 6,762,897</b>	<b>\$ 47,693,057</b>



Phase	Actual	Forecast						Total
	'06 to '11	2012	2013	2014	2015	2016	2017	2006 to 2017
<b>Release 7.2 and Measurement Canada 2011 Solution</b>								\$ -
IESO Staff Costs	\$ 107,856							\$ 107,856
Vendor Costs: Computer Support, Maintenance & Equipment	\$ 137,584							\$ 137,584
Vendor Costs: Contract Services and Consultants	\$ 6,850,456	\$ 2,965,336						\$ 9,815,792
Administration	\$ 4,023							\$ 4,023
<b>Release 7.2 and Measurement Canada 2011 Solution Total Costs</b>	<b>\$ 7,099,919</b>	<b>\$ 2,965,336</b>	<b>\$ -</b>	<b>\$ 10,065,255</b>				
<b>Measurement Canada 2012 Solution and Required Upgrades (Vendor Costs: Contract Services and Consultants)</b>	<b>\$ 83,769</b>	<b>\$ 6,804,146</b>	<b>\$ 1,000,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 7,887,915</b>
SME Corporate Costs (Legal Fees)	\$ 15,282	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 115,282
Provision for Changes to the MDM/R and Contingency (Vendor Costs: Contract	\$ -	\$ 0	\$ 4,696,097	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 5,000,000	\$ 24,696,097
<b>SUB-TOTAL</b>	<b>\$ 71,488,353</b>	<b>\$ 33,438,705</b>	<b>\$ 27,817,347</b>	<b>\$ 26,238,483</b>	<b>\$ 26,549,937</b>	<b>\$ 26,783,873</b>	<b>\$ 27,025,103</b>	<b>\$ 239,341,801</b>
<b>Financing Costs</b>	<b>\$ 2,312,559</b>	<b>\$ 1,581,591</b>	<b>\$ 1,980,930</b>	<b>\$ 2,278,536</b>	<b>\$ 2,216,336</b>	<b>\$ 1,352,350</b>	<b>\$ 456,241</b>	<b>\$ 12,178,542</b>
<b>TOTAL</b>	<b>\$ 73,800,912</b>	<b>\$ 35,020,296</b>	<b>\$ 29,798,278</b>	<b>\$ 28,517,018</b>	<b>\$ 28,766,273</b>	<b>\$ 28,136,223</b>	<b>\$ 27,481,343</b>	<b>\$ 251,520,343</b>

UNDERTAKING NO. JTC1.5

To provide year-to-date actuals for 2012 and explain any material differences between the forecast for 2012 and projected year-to-end actuals.

RESPONSE:

The attached table provides SME financial information with actual costs accrued to the end of October 2012, projected year-to-end actual costs for 2012, and explanation of any material differences between the forecast for 2012 and projected year-to-end actual.

Phase	2012 Projection as of March 23, 2012 [A]	Costs Accrued to October 31, 2012 [B]	2012 Projection as of October 31, 2012 [C]	Change In Projection [C] - [A]	Explanation of Change in Projection for 2012
<b>Phase 3 (MDM/R Operation)</b>					
<b>IESO Costs</b>					
<b>IESO Project Team Costs</b>					
IESO Staff Costs	\$ 2,965,389	\$ 1,999,796	\$ 2,480,644	\$ (484,745)	Delayed hiring of staff to replace departures of staff and contract resources to assess impact of the proposed legislation to merge the IESO and the OPA.
Contractor Costs	\$ 2,858,971	\$ 1,902,959	\$ 2,486,604	\$ (372,367)	Reduced number and cost of contractors by mid 2012 based on progress made with the transfer of knowledge and responsibilities to new IESO employees and other resources.
<b>IESO Project Team Costs Total</b>	<b>\$ 5,824,360</b>	<b>\$ 3,902,755</b>	<b>\$ 4,967,248</b>	<b>\$ (857,112)</b>	
<b>External Fees and Expenses</b>					
Computer Support, Maintenance & Equipment	\$ 166,250	\$ 157,085	\$ 157,085	\$ (9,165)	
Administration	\$ 74,000	\$ 10,997	\$ 21,563	\$ (52,437)	Deferred courses and training for IESO Project Team to 2013 on account of other higher priorities in 2012.
Telecommunications	\$ 11,000	\$ 2,770	\$ 4,000	\$ (7,000)	
<b>Contract Services and Consultants</b>					
Audit Fees	\$ 182,104	\$ 4,340	\$ 157,950	\$ (24,154)	
Legal Fees	\$ 75,000	\$ 16,020	\$ 68,048	\$ (6,952)	
Other		\$ 304	\$ 304	\$ 304	
<b>Contract Services and Consultants Total</b>	<b>\$ 257,104</b>	<b>\$ 20,664</b>	<b>\$ 226,302</b>	<b>\$ (30,802)</b>	
<b>External Fees and Expenses Total</b>	<b>\$ 508,354</b>	<b>\$ 191,515</b>	<b>\$ 408,950</b>	<b>\$ (99,404)</b>	
Regulatory Process: Licensing & Cost Recovery (Contract Services - Legal Fees)	\$ 250,000	\$ 38,061	\$ 100,000	\$ (150,000)	Based on status of SMC rate application, deferred some costs for licensing & cost recovery to 2013.
IESO Communications Support	\$ 50,000	\$ 300	\$ 300	\$ (49,700)	Deferred updates to SME external communications web-site to 2013, on account of other higher priorities.
<b>Total Phase 3 IESO Costs</b>	<b>\$ 6,632,714</b>	<b>\$ 4,132,631</b>	<b>\$ 5,476,498</b>	<b>\$ (1,156,216)</b>	

Phase	2012 Projection as of March 23, 2012 [A]	Costs Accrued to October 31, 2012 [B]	2012 Projection as of October 31, 2012 [C]	Change In Projection [C] - [A]	Explanation of Change in Projection for 2012
<b>Phase 3 Vendor Costs</b>					
<b>Vendor Base Contract (Contract Services)</b>	\$ 12,375,954	\$ 8,866,112	\$ 11,109,813	\$ (1,266,141)	Deferred contracted services to 2013 on account of other higher priority change initiatives and MDM/R production operations. The average meters enrolled in the MDM/R were slightly lower than were projected resulting in lower fees in 2012 than projected.
<b>Vendor Change Orders and Infrastructure Improvements (Contract Services)</b>					
Vendor Change Orders	\$ 838,253	\$ 81,954	\$ 81,954	\$ (756,299)	Deferred some change orders to 2013 and 2014 until after the implementation of Measurement Canada solutions, the outcome of the OSP competitive procurement and planned refresh of the MDM/R infrastructure in 2013.
Infrastructure Improvements	\$ 1,035,562	\$ -	\$ -	\$ (1,035,562)	Deferred infrastructure improvements pending outcome of the OSP competitive procurement and planned refresh of the MDM/R infrastructure in 2013.
Service Level Credits (incl. PST)	\$ (51,508)	\$ (135,087)	\$ (135,087)	\$ (83,579)	Actual service level credits received from OSP.
Enhanced Support for LDCs	\$ 790,000	\$ -	\$ -	\$ (790,000)	Deferred enhanced support from 2012 to 2013 to align with the planned testing and deployment of Measurement Canada 2012 solution part 2 and other changes to the MDM/R.
Vendor Change Orders - PST	\$ -		\$ -	\$ -	
<b>Vendor Change Orders and Infrastructure Improvements Total</b>	\$ 2,612,307	\$ (53,133)	\$ (53,133)	\$ (2,665,440)	See above.
Maintenance on Changes to the MDM/R (Computer Support, Maintenance & Equipment)	\$ 149,955	\$ 12,509	\$ 149,955	\$ -	
LDC Testing Facilities (Contract Services)	\$ 837,500	\$ 635,927	\$ 837,500	\$ -	
<b>Total Phase 3 Vendor Costs</b>	\$ 15,975,716	\$ 9,461,415	\$ 12,044,135	\$ 3,931,581	
<b>MDM/R OSP Procurement to Contract</b>	\$ -	\$ 64,929	\$ 375,000	\$ 375,000	This project is to conduct a competitive procurement for the MDM/R OSP; actual costs and projections are for incremental legal fees to support this project.
<b>Total Phase 3 Costs</b>	\$ 22,608,429	\$ 13,658,975	\$ 17,895,633	\$ (4,712,796)	

Phase	2012 Projection as of March 23, 2012 [A]	Costs Accrued to October 31, 2012 [B]	2012 Projection as of October 31, 2012 [C]	Change In Projection [C] - [A]	Explanation of Change in Projection for 2012
<b>Phase 4 (Accelerated TOU Rollout Plan &amp; OEB Mandate)</b>					
<b>IESO Project Team Costs Total</b>	\$ 690,958	\$ 631,828	\$ 739,318	\$ 48,360	Aligned resource mix to support evolving LDC enrolment schedules and their compliance with Measurement Canada requirements, within overall budget of this Phase. The enrolment support of remaining two LDC has been transitioned to MDM/R Operations.
<b>Vendor Costs Total</b>	\$ 269,835	\$ 117,494	\$ 122,307	\$ (147,528)	
<b>Phase 4 Costs Total</b>	\$ 960,793	\$ 749,322	\$ 861,625	\$ (99,168)	
<b>Release 7.2 and Measurement Canada 2011 Solution</b>					
IESO Staff Costs		\$ 1,157	\$ 1,157	\$ 1,157	
Vendor Costs: Computer Support, Maintenance & Equipment		\$ -		\$ -	
Vendor Costs: Contract Services and Consultants	\$ 2,965,336	\$ 2,528,730	\$ 2,873,759	\$ (91,578)	
Telecommunications		\$ 1,751	\$ 1,751	\$ 1,751	
Administration		\$ 4,915	\$ 4,915	\$ 4,915	
<b>Release 7.2 and Measurement Canada 2011 Solution Total Costs</b>	\$ 2,965,336	\$ 2,536,553	\$ 2,881,582	\$ (83,755)	
<b>Measurement Canada 2012 Solution and Required Upgrades Total Costs</b>	\$ 6,804,146	\$ 2,771,421	\$ 3,461,231	\$ (3,342,915)	Brought forward a significant portion of Measurement Canada Solution (MC 2012 Part 1) ahead of schedule as part of the deployment of Release 7.2 and MC 2011 Solution, reducing the costs required to deliver MC 2012 solution. With priorities around the deployment of R7.2 in April, support of LDCs in transitioning to the Measurement Canada solution, and Oracle 11g upgrade, deployment of MC 2012 solution part 2 and other required upgrades have been deferred to 2013.
SME Corporate Costs (Legal Fees)	\$ 100,000	\$ 2,931	\$ 2,931	\$ (97,069)	Costs associated with the MDM/R Governance Transition Plan deferred to 2013 following the establishment of a Smart Metering Charge.
<b>SUB-TOTAL</b>	\$ 33,438,705	\$ 19,719,201	\$ 25,103,002	\$ (8,335,703)	
<b>Financing Costs</b>	\$ 1,581,591	\$ 1,260,024	\$ 1,560,836	\$ (20,755)	Although the delayed start of the Smart Metering Charge has increased financing costs, this has been offset by lower expenditures in 2012 than plan and slightly lower actual interest rates in 2012 than forecast.
<b>TOTAL</b>	\$ 35,020,295	\$ 20,979,225	\$ 26,663,838	\$ (8,356,458)	

Filed: November 21, 2012

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UNDERTAKING NO. JTC1.6

To request that IBM consent to the release of a copy of the MDM/R contract.

RESPONSE:

IBM Canada has consented to the release of the confidential provisions to the MDM/R Agreement provided they are subject to the confidentiality protections contained in the Board's *Practice Direction on Confidential Filings*. The SME will request a declaration of confidentiality under the Board's *Practice Direction* shortly. A redacted version of the MDM/R Agreement will be filed on the public record at that time.

The SME will not be disclosing portions of the MDM/R Agreement that relate to information security policies, standards and requirements for the MDM/R.

UNDERTAKING NO. JTC1.7

To provide breakdown of contract services and consultant costs going forward.

RESPONSE

The attached table provides a breakdown of contract services and consultant costs going forward.

Phase	Forecast					
	2012	2013	2014	2015	2016	2017
<b>Phase 3 (MDM/R Operation)</b>						
Contractor Costs	\$ 2,858,971	\$ 2,584,384	\$ 2,075,973	\$ 2,147,572	\$ 2,211,999	\$ 2,278,359
Audit Fees	\$ 182,104	\$ 187,567	\$ 193,194	\$ 198,990	\$ 204,960	\$ 211,108
Legal Fees	\$ 75,000	\$ 77,250	\$ 79,568	\$ 81,955	\$ 84,413	\$ 86,946
Regulatory Process: Licensing & Cost Recovery (Contract Services - Legal Fees)	\$ 250,000	\$ 154,500	\$ 159,135	\$ 163,909	\$ 168,826	\$ 173,891
IESO Communications Support	\$ 50,000	\$ 51,500	\$ 53,045	\$ 54,636	\$ 56,275	\$ 57,964
Vendor Base Contract	\$ 12,375,954	\$ 13,935,600	\$ 13,935,600	\$ 13,935,600	\$ 13,935,600	\$ 13,935,600
Vendor Change Orders	\$ 838,253	\$ -	\$ -	\$ -	\$ -	\$ -
Infrastructure Improvements	\$ 1,035,562	\$ -	\$ -	\$ -	\$ -	\$ -
Service Level Credits (incl. PST)	\$ (51,508)	\$ -	\$ -	\$ -	\$ -	\$ -
Enhanced Support for LDCs	\$ 790,000	\$ 400,000	\$ -	\$ -	\$ -	\$ -
LDC Testing Facilities (Contract Services)	\$ 837,500	\$ 909,000	\$ 936,270	\$ 964,358	\$ 993,289	\$ 1,023,088
<b>Phase 3 Contract Services and Consultants Costs Total</b>	<b>\$ 19,241,835</b>	<b>\$ 18,299,801</b>	<b>\$ 17,432,785</b>	<b>\$ 17,547,020</b>	<b>\$ 17,655,363</b>	<b>\$ 17,766,955</b>

Phase	Forecast					
	2012	2013	2014	2015	2016	2017
<b>Phase 4 (Accelerated TOU Rollout Plan &amp; OEB Mandate)</b>						
Contractor Costs	\$ 683,453	\$ -	\$ -	\$ -	\$ -	\$ -
Vendor Costs	\$ 269,835	\$ -	\$ -	\$ -	\$ -	\$ -
Other	\$ (1,318)					
<b>Phase 4 Contract Services and Consultants Costs Total</b>	<b>\$ 951,970</b>	<b>\$ -</b>				
<b>Release 7.2 and Measurement Canada 2011 Solution (Vendor Costs: Contract Services and Consultants)</b>	<b>\$ 2,965,336</b>					
<b>Measurement Canada 2012 Solution and Required Upgrades (Vendor Costs: Contract Services and Consultants)</b>	<b>\$ 6,804,146</b>	<b>\$ 1,000,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>SME Corporate Costs (Legal Fees)</b>	<b>\$ 100,000</b>	<b>\$ -</b>				
<b>Provision for Changes to the MDM/R and Contingency (Vendor Costs: Contract Services)</b>	<b>\$ 0</b>	<b>\$ 4,696,097</b>	<b>\$ 5,000,000</b>	<b>\$ 5,000,000</b>	<b>\$ 5,000,000</b>	<b>\$ 5,000,000</b>
<b>CONTRACT SERVICES AND CONSULTANTS TOTAL</b>	<b>\$ 30,063,288</b>	<b>\$ 23,995,898</b>	<b>\$ 22,432,785</b>	<b>\$ 22,547,020</b>	<b>\$ 22,655,363</b>	<b>\$ 22,766,955</b>

UNDERTAKING NO. JTC1.8

To file the MOU between the IESO and the Ministry of Energy.

RESPONSE:

The SME is willing to file the MOU on a confidential basis and disclose it to those parties that deliver a Declaration and Undertaking of confidentiality. The SME will request a declaration of confidentiality under the Board's *Practice Direction on Confidential Filing* shortly.

UNDERTAKING NO. JTC1.9

To determine what, if any, portions of the RFP can be released subject to OEB confidentiality provisions.

RESPONSE:

The SME has determined that substantial portions of the MDM/R RFP can be filed on a confidential basis and disclosed to those parties that deliver a Declaration and Undertaking of confidentiality. The SME will request a declaration of confidentiality under the Board's *Practice Direction on Confidential Filing* shortly.

The SME has determined that sections related to the following matters cannot be released at this time:

- Information security policies, standards and requirements for the MDM/R
- MDM/R Licensing and Support Agreements (which reflect current commercial arrangements with IBM and eMeter)
- OSP IT Process Requirements (includes requirements around information security)
- MDM/R Technical Architecture Implementation (reflecting details about the current implementation, that is commercially sensitive and contains information about the current information security environment)

In addition to the RFP, the SME has answered approximately 400 questions from proponents about requirements and current environment for the MDM/R. At this time, the SME does not intend to release those answers. If it is required to do so, the SME would need to review each of the questions and responses and redact any information related to matters outlined above