IRAC TECHNICAL SESSION

Advanced Metering for Sustainable Electrification

Presentation and Overview from Maritime Electric Company Ltd.

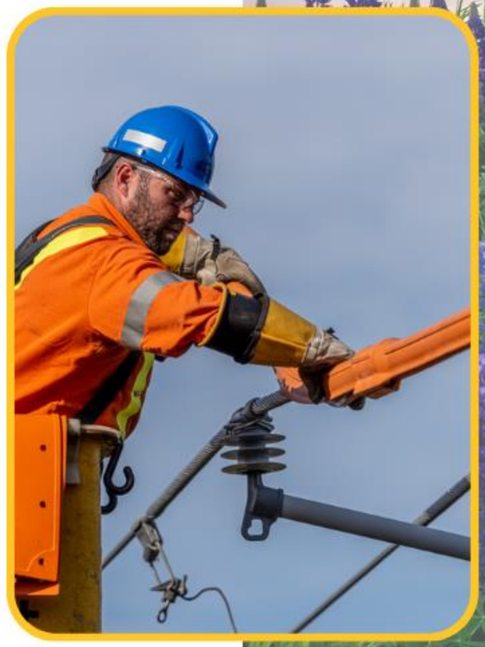
July 11, 2024

MARITIME ELECTRIC
A FORTIS COMPANY

Opening Remarks

President & CEO Jason Roberts

- Focus on transparency, diligence in our operations and delivering safe, reliable and sustainable electricity for our customers
- Committed to providing detailed, clear and accurate filings
  - Support decision making process
  - Demonstrate comprehensive assessment, scoping and selection process
- Advanced metering for sustainable electrification multi-year project
  - Customer information system- replacement of 30-year-old end of life software
  - Advanced metering infrastructure- implementation of industry standard meters
  - $47.8 million project, including $19 million in federal government funding support



Advanced Metering for Sustainable Electrification Overview

Customer Information System (CIS)

- Foundation for customer data flow and management
- Strategic risk due to aging programming languages and limited resources
- Cannot support the use of smart meters

Advanced Metering Infrastructure (AMI) Implementation- Smart Meters

- PEI is one of the last to implement - now industry standard
- Improve level of customer service and reliability
- Support customers' sustainable electrification and provincial net zero goals

Project Governance

CIS & AMI Steering Committee

Enrique Riveroll
Vice President, Sustainability & Customer Operations

Jason Roberts
President & CEO

Michelle Francis
Vice President, Finance & CFO

Angus Orford
Vice President, Corporate Planning & Energy Supply

Feng Liang
Director, T&D Engineering

Rolly Young
Director, Financial Reporting

Ken Sampson
Director, Customer Service & T&D Operations

Kent Nicholson
Director, Production & Energy Control Operations

Julie Doyle
Internal Auditor

Troy Howatt
CIS Co-Project Manager

Greg MacPhail
CIS Co-Project Manager

Mike Smith
AMI Project Manager

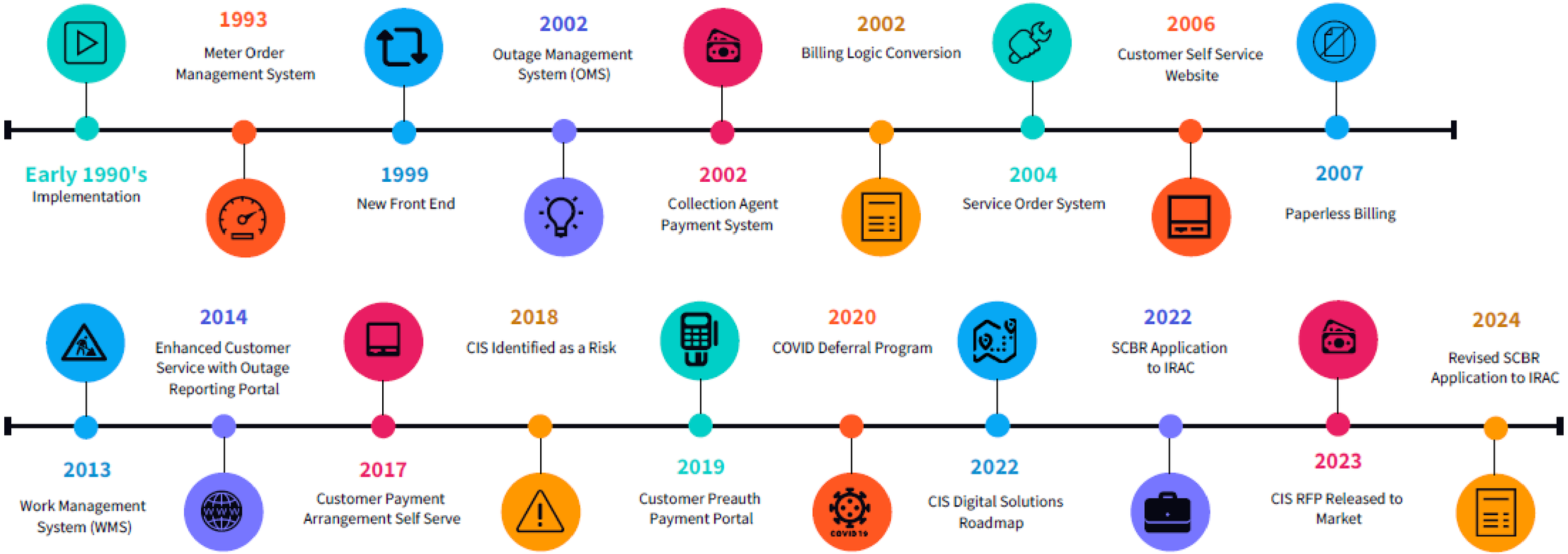
MARITIME ELECTRIC
A FORTIS COMPANY

The Legacy CIS is Critical to the Core Business

The CIS is a Legacy System

- The existing legacy CIS has evolved for **over 30 years** and is critical to many core business functions.
- The CIS is the **primary software program** that many areas of the Company rely on and is **integrated** with key software applications.
- The existing legacy CIS is designed using an [redacted], that is no longer a mainstream programming development tool.

CIS Timeline

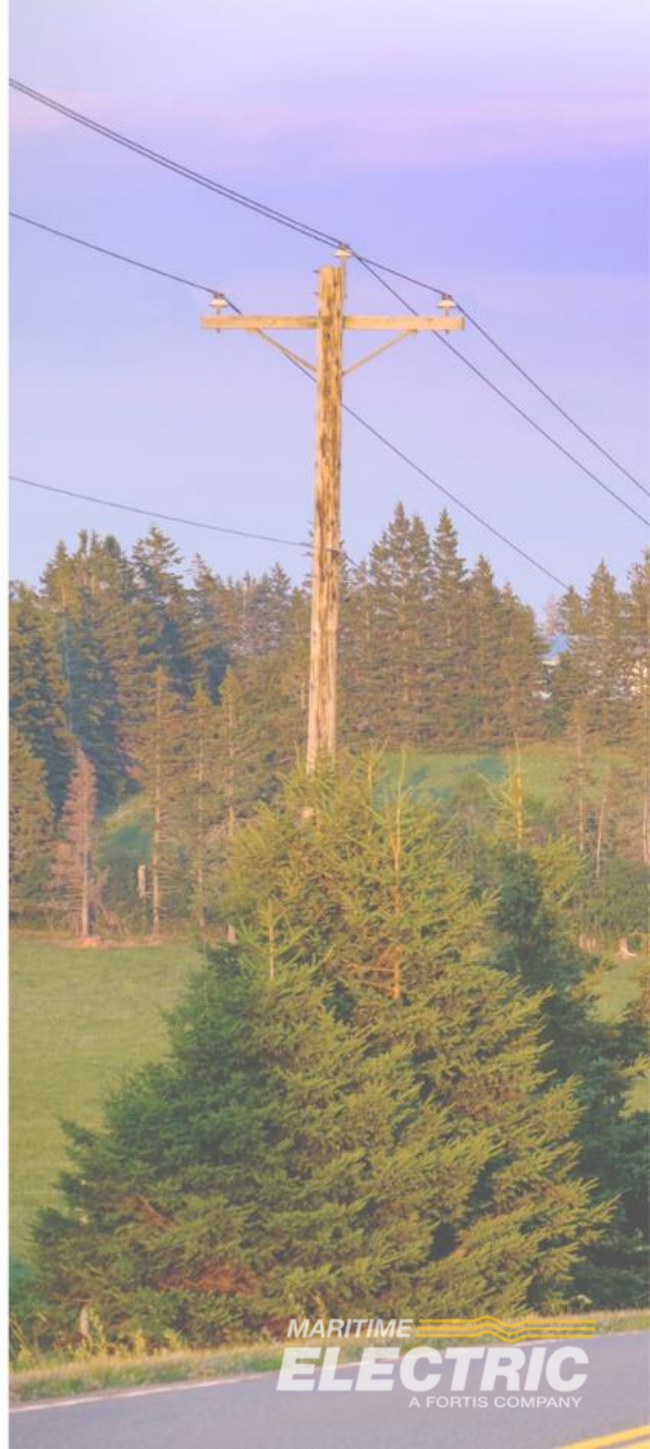


Customer Service Delivery Increase

2013 vs. 2023

2013	2023
94K+ Interactions	150K Interactions **(>60% growth)**
76K+ Customers	89K Customers **(>15% growth)**

- 133K+ Calls
- 17K+ Emails
- 1.5K+ Online Service Requests
- 700+ Web Chats



The Need for a New Customer Information System (CIS)

Assessment of CIS: Current State

TMG assessed that the current system has **several limitations** which are driving the need to replace it with a new solution.

Not Agile

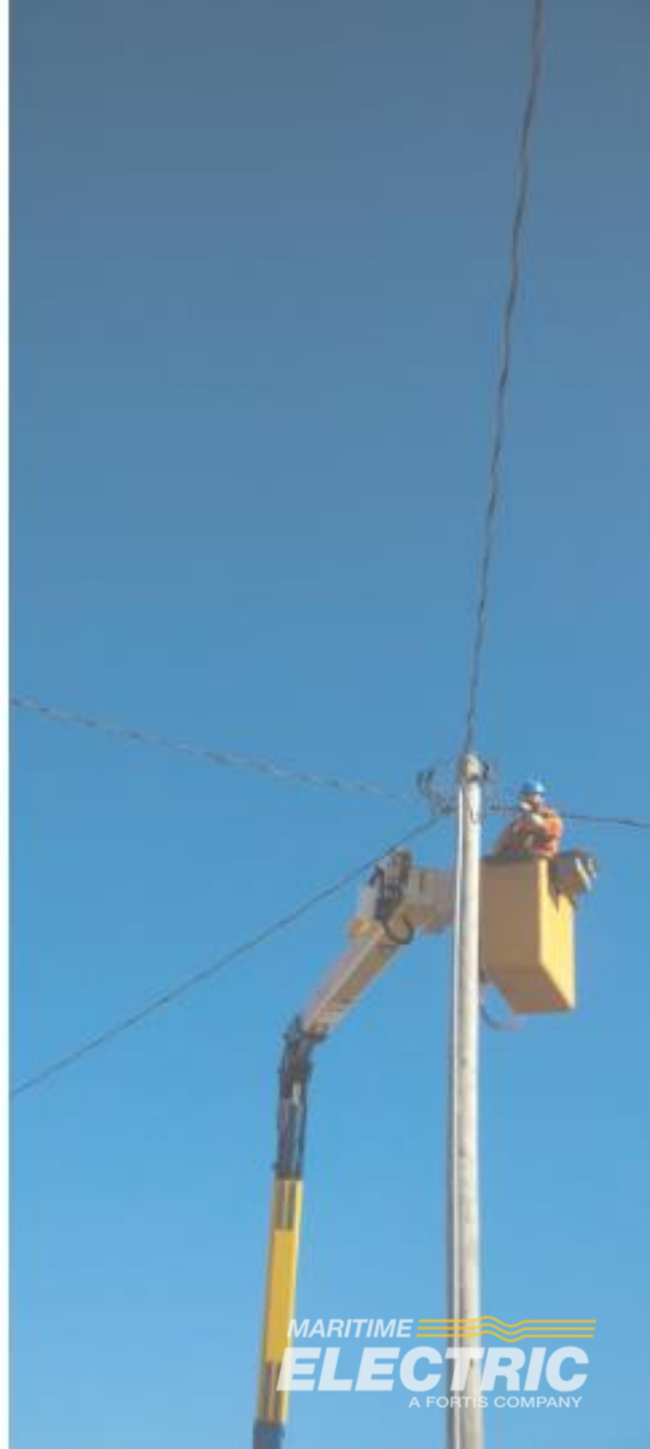
Not Efficient

Not Capable

TMG Consulting
Where Business and Technology Intersect

Hedi Ago
TMG Senior Director

Greg Galluzzi
TMG Customer Expert



Risks if we Don’t Replace

- [redacted] **resources** are difficult to find
- **Highly customized CIS** lacks documentation and difficult to integrate with commercial-off-the-shelf systems
- **Data access and reporting** is inefficient and difficult to manage
- **Staffing and training** is inefficient, difficult and relies heavily on in-house developed knowledge
- Upgrades and additions will be **costly, time consuming** and, in some instances, **prohibitive**.

MARITIME ELECTRIC
A FORTIS COMPANY

CIS Digital Solutions Roadmap & Strategic Sourcing

CIS Expert Project Team & External Consulting

- **TMG Consulting Inc.** was engaged to complete a **Digital Solutions Roadmap** & Options Analysis (2022).
- A Supplemental Capital Budget Application was developed, and CIS and AMI teams formed to develop RFPs.

Hedi Ago
TMG Senior Director

Greg Galluzzi
TMG Customer Expert

Enrique Riveroll
CIS Executive Sponsor | Vice President, Sustainability & Customer Operations

Adam MacKenzie
Project Communications Liaison

Troy Howatt
Co-Project Manager

Greg MacPhail
Co-Project Manager

Kelli Matheson
Operations and Work Management Lead

Kate O'Brien
Finance and Billing Lead

Tracy Sinnott
Customer Service and Engagement Lead

Benefits of Commercial Off-the-Shelf (COTS) Software for CIS

- Since the early 2000's, **COTS CIS product solutions** have become a **proven and accepted** direction within the utility industry.
- TMG is not aware of any utility attempting to custom develop a CIS after 2000 (custom developed for competitive advantage).
- **COTS CIS becomes "future proof"** through regular upgrades that leverage the collective needs of many utilities that utilize the COTS CIS product.
- A **customized CIS** must be maintained and enhanced by Maritime Electric only. It **does not receive regular and frequent updates** from vendor research and user groups like a COTS CIS solution.

TMG Consulting
Where Business and Technology Intersect

MARITIME ELECTRIC
A FORTIS COMPANY

Cloud-Based vs On-Premise CIS Solutions

- In 2021 when the DSR was created, data showed that 70% of utilities were operating their CIS On-Premise and were all moving to a cloud-based solution.
- In 2023 the decision to implement a cloud-based solution was made based on other successful utility implementations of cloud platforms and internet availability on the Island.
- Over the last five years, TMG customers have selected Cloud platforms over On-Premise.
- The last five TMG customers selecting Cloud platforms include -

TMG Consulting
Where Business and Technology Intersect

MARITIME ELECTRIC
A FORTIS COMPANY

CIS Selection Rigor, Vendor Scoping & Due Diligence

Confidential information

Stage 1: RFP issued and interview workshop with TMG

Stage 2: Proposal evaluations, reference checks, demonstrations, and selection of vendor

Stage 3: Complete scope workshop and offer finalization with selected vendor

Stage 4: Complete contract negotiations, sign and projected start of engagement

MARITIME ELECTRIC
A FORTIS COMPANY

CIS Vendor Justification

- **Experience** delivering utility enterprise solutions to ove
- Provided **integrated solution**
- A future enhancements
- **Favourable references**
-
- company

CIS Summary of Customer Benefits

Benefits to Customers with CIS Replacement

- **Customer Satisfaction** – Ability to provide superior customer experience by accommodating future products, programs and services, multiple communication channels and data analytics.
- **Innovative Rate Structures** – Ability to accommodate various rate structures, making it easier to implement changes in rates or billing methods.
- **Scalability for Future Growth –** Designed to be scalable and accommodate growth in customer interactions and changes in operations.
- **Employee Satisfaction** – Employees will use a modern CIS, which will allow them to be more efficient and productive.

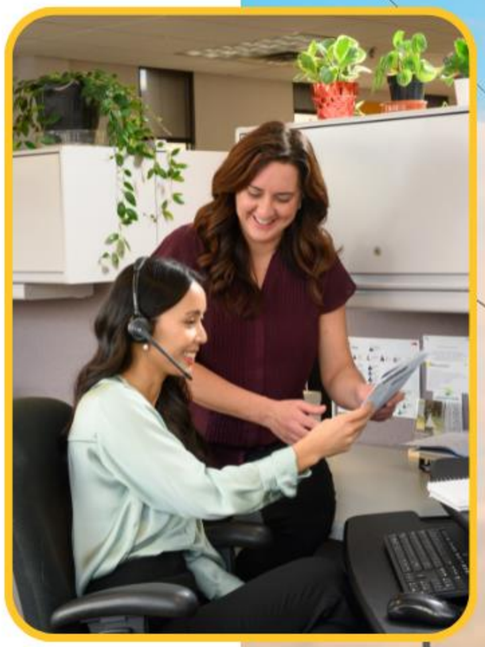
CIS Foundational for AMI Integration

AMI integration is reliant on a new CIS System.

CIS Project Budget Overview

CIS	Original	Revised	Variance
Vendor Costs (Software, Hardware, & Labour)	$ 12,055,000	$ 11,810,000	$ (245,000)
Internal Labour	3,665,000	7,430,000	3,765,000
Owner's Engineer	2,600,000	1,375,000	(1,225,000)
Other Project Costs	635,000	635,000	-
Contingency	2,580,000	4,940,000	2,360,000
Total	**$ 21,535,000**	**$ 26,190,000**	**$ 4,655,000**

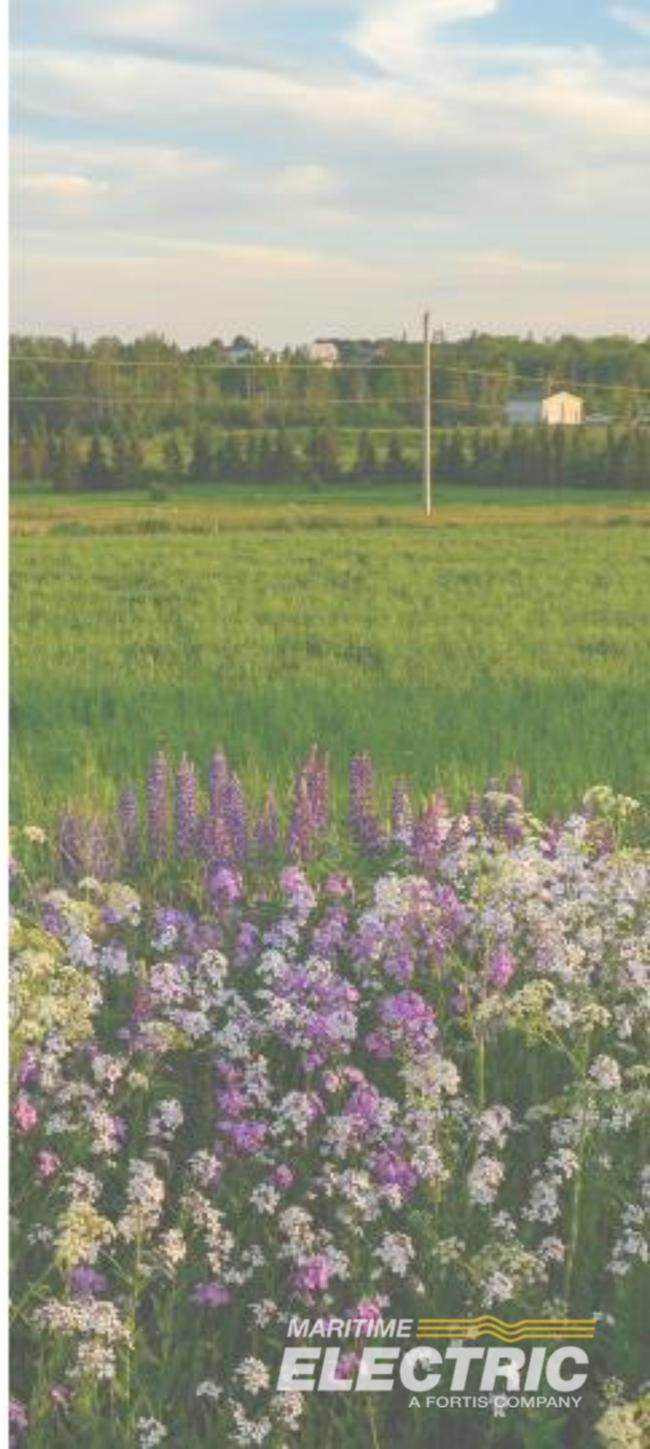
The Need for Advanced Metering Infrastructure (AMI)



AMI Customer Benefits

Smart Meter customer benefits include:

- **Improved customer communication**, through the ability to see each account's status
- **Customers' ability to review their usage** and the results of their conservation efforts
- Improves customers' ability to **understand their consumption profile** which can lead to more educated and satisfied customers
- **Improving outage restoration** for power line crew deployment
- **Remote disconnect/reconnect** capabilities
- **Two-way communications** with customer meters
- Innovative rate structures with **Time-of-Use rates**



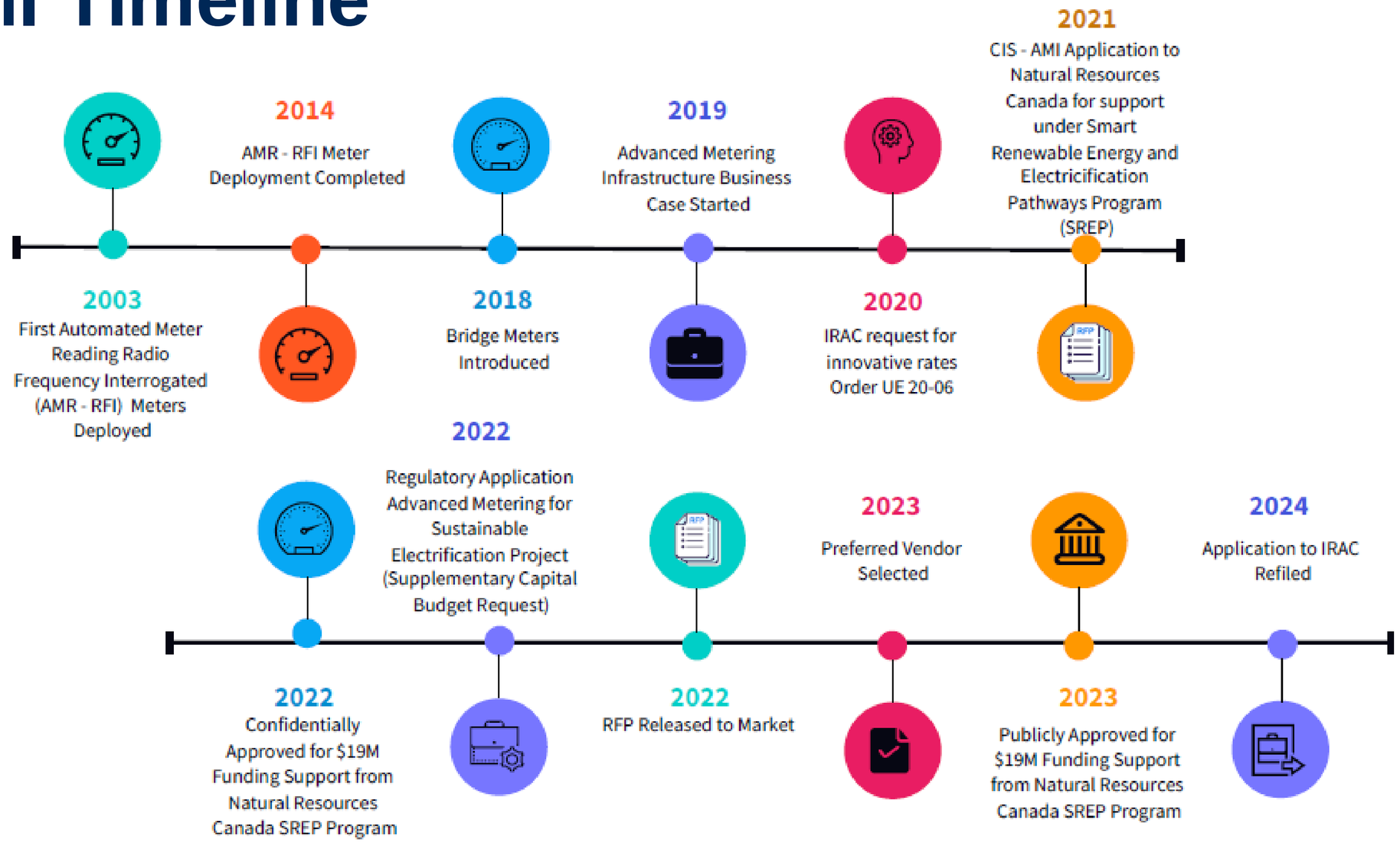
Advanced Metering Infrastructure (AMI)

Innovative rate structures are needed to incent customers to shift load from peak to off-peak periods, optimizing the use of the power system and delaying the need for more costly infrastructure investments.

Smart meter technology, provides hourly meter readings and enhanced communications with meters.

- Hourly meter readings are beyond the capabilities of the existing meters.
- Without detail of customer consumption patterns, Maritime Electric will be limited in its ability to influence customer energy usage.

AMI Timeline



MARITIME ELECTRIC
A FORTIS COMPANY

AMI Business Case

- The initial business case indicated a net present value of **shortfall** $3.9 million
- Applied for funding from **Natural Resources Canada** for project **financial support**
- The final business case indicated a **positive** net present value
- Received **$19 million** support from **Natural Resources Canada**

AMI Expert Project Team and External Consulting

Confidential information

Util-Assist Inc. engaged to perform a Business Case Study (2019).

Util-Assist consultants and Maritime Electric employees participated in the analysis of the current state of metering and explore what opportunities could be pursued if AMI technology was introduced.

The RFP was then developed to proceed to vendor selection.

util-assist

Angus Orford
Vice President, Corporate Planning & Energy Supply

Adam MacKenzie
Project Communications Liaison

Mike Smith
AMI Project Manager

AMI Metering Representatives

Meter Data Lead

Smart Meter Communications Lead

Kathy Quinn
Metering Supervisor

Meter Department Staff

Positions to be filled when project is approved

Taylor Torgerson
Util-Assist Director, Strategic Services

Sebastian Pardo
Util-Assist Finance Manager

MARITIME ELECTRIC
A FORTIS COMPANY

AMI Selection Process

Stage 1: RFP issued

Stage 2: Proposal evaluations, demonstrations and reference checks performed

Stage 3: Proposal clarifications, follow up questions and reference calls

Stage 4: Revised offers evaluated and final vendor selection

Stage 5: Contract negotiations, sign and projected start of engagement

AMI Vendor Justification

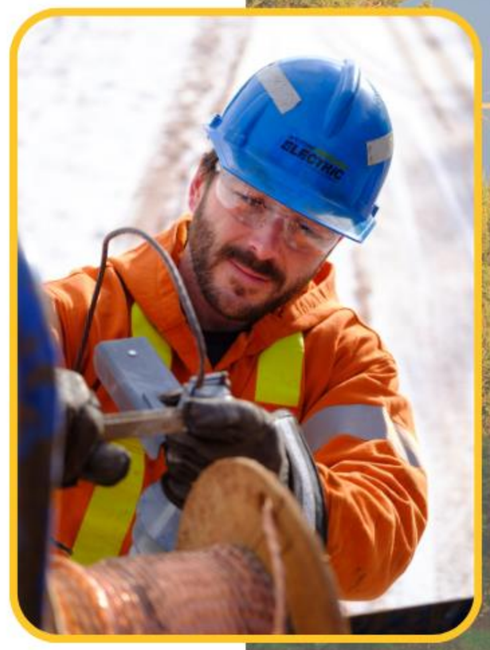
Confidential information

- Highest **abilities**
- meter hardware
- EV programs
- in Canada
- Metering Measurement Canada

Vendor Due Diligence

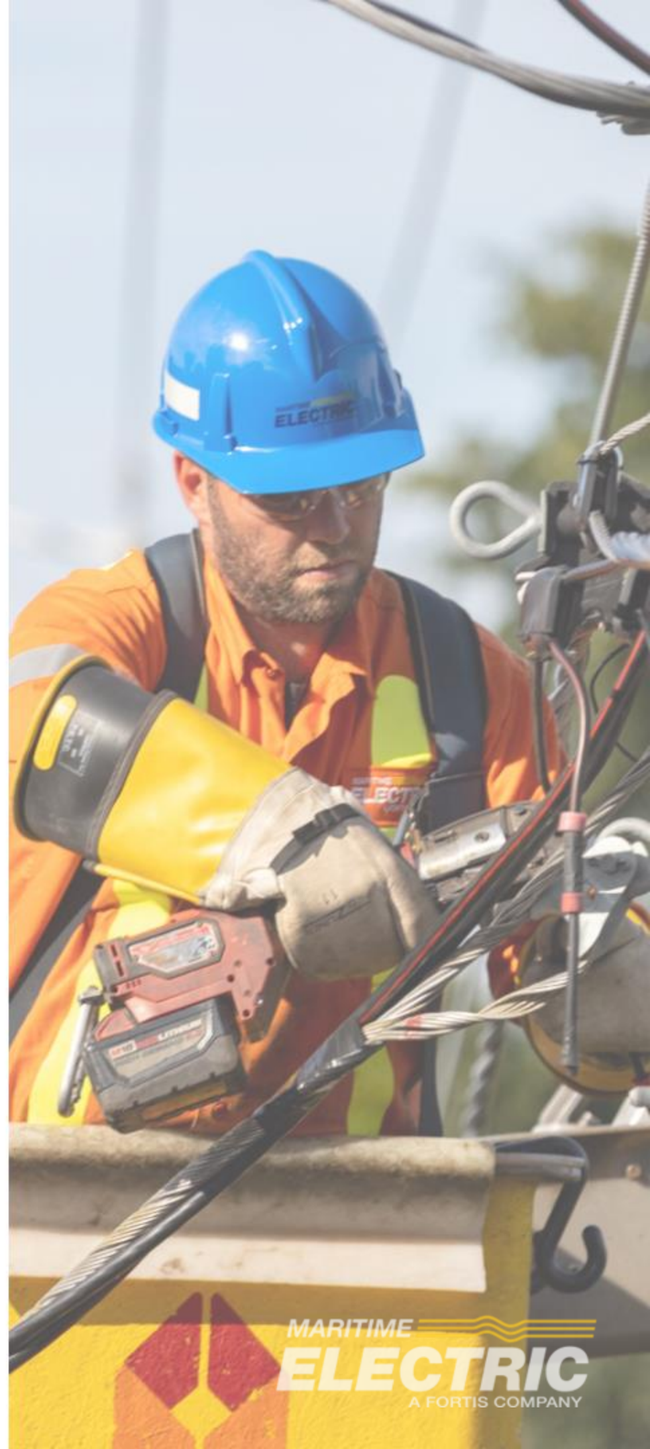
Confidential information

- Site visits to
- Reference calls to eight utilities
- Affirmed key capabilities



Government's Net Zero Goals with AMI

- CIS and AMI **support the net zero goal** of the Provincial Government.
- Increased electrification is fundamental to the province in achieving net zero goals.



AMI Project Budget Overview

AMI	Original	Revised	Variance
Vendor Costs (Meter Equipment, Network Infrastructure, Head-End System & Vendor Services)	$ 22,400,000	$ 31,055,000	$ 8,655,000
Internal Labour	3,650,000	5,805,000	2,155,000
Contingency	-	925,000	925,000
Total	**$ 26,050,000**	**$ 37,785,000**	**$ 11,735,000**

Government of Canada Funding

$19 Million Support under Natural Resources Canada

Smart Renewables and Electrification Pathways Program

Natural Resources Canada | Ressources naturelles Canada

Canada

Closing Remarks

- The Project is consistent with expert recommendations and industry best practices
- The total estimated budget is $47.8M (net of $19M federal government contribution)
  - AMI multi-year budget is $37.8M
  - CIS multi-year budget is $26.2M
  - Accumulated interest during construction is $2.9M
  - Projected rate impact is 2.7%
- CIS replacement is the only viable option
- Federal Government contribution supports AMI implementation
- Deferring the project increases risks and costs

Open Panel Discussion & Questions

Appendix

TMG Team Leads

Hedi Ago
TMG Senior Director

Hedi has worked in the IT industry for over 30 years, the last 20 in the Utility industry where she has led digital transformation, major technology solution implementations and upgrades, strategic technology roadmap definition and application rationalization. Hedi has 16 years in Senior Management where she has successfully led different areas in IT including the PMO, Service Desk and Request, Infrastructure Operations, Design Authority, Quality Engineering, and Enterprise Resource Planning, driving value, eliminating technology debt, transforming operations and culture using information, process, and technology. Hedi has a strong success record of delivering major projects on time, on budget and aligned to the sought business value. Hedi has been part of executive teams to obtain CIS project approvals and is the author for many materials which are included in Board and Regulatory presentations.

Greg Galluzzi
TMG Customer Expert

Greg is the original founder of TMG in 1992 and he brings 40 years of experience to this project. He is an owner and a current Executive Vice President with TMG. He is responsible for conducting Digital Enterprise Plans, Digital Solution Roadmaps, Information Technology Plans, Strategic Solution Procurements, Implementation Quality Assurance Oversight, Audits, Readiness Assessments, and Research & Pricing Analysis projects for all types of utilities and all types of sizes, from the smallest public owned utility to the largest Investor-Owned Utility (IOU). He has worked with 185 customers across over 300 projects focused on CIS, CRM, CIC or CxT, ERP, EAM/WAM, OMS, FSM/MWM, AMI, and many other applications. He will be the primary analyst working to conduct the digital sourcing and procurement activities. Greg created TMG's frameworks, methodologies, models, and procurement methods used to perform and deliver this work. Greg started his career at Accenture in 1980 out of the Phoenix office. He traveled extensively working primarily for IOU's who were planning to replace their billing systems with new CIS applications and WMS. He continued working in this area until 1992 when he started his own consulting firm, called TMG Consulting, Inc. based in Austin, Texas. As part of this startup effort Greg focused primarily on smaller municipal owned utilities in the State of Texas. As the years progressed his customers grew to include moderate to large IOU's and Public Power Utilities. His first Canadian Utility was BC Hydro in 1998.

Appendix

Util-Assist Team Leads

Taylor Torgerson
Util-Assist Director, Strategic Services

As Director, Strategic Services, Taylor leads strategy development and provides operational oversight to Util-Assist's PMO and quality assurance functions while supporting our overall strategic growth plan.

With almost two decades of project and operational experience in the utility sector, Taylor previously worked for a major AMI/MDM technology vendor where she led multiple multi-year and short-term projects involving the technical deployment of systems including hardware, communications, hosting, advanced security, and proprietary software. In addition to project management expertise, Taylor's background also spans across areas such as contract and SOW development and negotiations, utility analytics, software quality assurance and testing. Taylor is a skilled liaison and a proven leader with a strong reputation of directing and inspiring teams, implementing improved processes, solving complex issues, and leading organizational change management processes.

In addition to being a certified Project Management Professional (PMP), Taylor holds professional certificates for Global Advanced Project Management from California Institute of Technology, Mastering Project Management from Villanova University, and Engineering Certification from the University of Wisconsin in Electrical Distribution Principles and Applications.

Sebastian Pardo
Util-Assist Finance Manager

Sebastian Pardo is an accomplished Finance Manager with over 6 years of experience in the financial management and strategic oversight of large-scale Infrastructure projects. Specializing in Advanced Metering Infrastructure (AMI) projects. With a robust background in finance, Sebastian's expertise spans budget forecasting, financial analysis, risk management, and performance optimization.

Sebastian's career is marked by his adeptness at navigating the complexities of AMI projects. He has experience collaborating closely with cross-functional teams, stakeholders, and regulatory bodies to ensure seamless financial operations and compliance with industry standards. His ability to balance technical requirements with financial constraints has earned him a reputation as a trusted leader in the field.
Sebastian has extensive knowledge of financial modeling and cost-benefit analysis to support the deployment of cutting-edge metering technologies, contributing to the enhancement of smart grid infrastructure and energy management systems in the range of $50M - $500M.