

CI C0068719

IT – Distributed Intelligence Apps

REDACTED

August 4, 2026



NSEB APPROVAL SHEET

Project Title: IT - Distributed Intelligence Apps

CI Number: C0068719

Date: August 4, 2026

Expenditure Profile			Type of Filing	
Year	Budget Amount	Project Estimate	☐	Capital Project Authorization
2025	47,015	22,635	☐	Unforeseen and Unbudgeted (U&U)
2026	1,312,110	602,240	☐	Planned & Advanced (P&A)
2027	1,278,231	2,312,976	☒	Subsequent Approval Item
2028		227,939	☐	Authorization to Overspend (ATO)
			☐	Scope Change
			☐	Final Cost (FIN)
Total	\$2,637,356	\$3,165,790		

COMMENTS

Submitted on behalf of NOVA SCOTIA POWER INCORPORATED

David Pickles

Authorized Signatory
Dave Pickles
Chief Operating Officer

DATE
08042026

Approved on behalf of NOVA SCOTIA ENERGY BOARD

DATE

CI Number: C0068719

Title: IT – Distributed Intelligence Apps

Start Date: 2025/02
In-Service Date: 2027/10
Final Cost Date: 2028/04
Function: General Plant
Forecast Amount: \$3,165,790

DESCRIPTION:

Distributed Intelligence (DI) refers to the use of software applications (apps) deployed on field devices to collect high-resolution operational data and perform localized analysis using data collected at the grid-edge, where the distribution network interacts with customer meters. These DI apps will leverage granular current and voltage data, along with peer-to-peer communication with nearby meters enabling NS Power to better understand real-time grid conditions and strengthening detection of abnormal or safety-related events. It will also support updates to the Company’s existing GIS distribution grid model and increase available asset data to support more informed operational and planning decisions which can help improve system reliability and performance.

The DI Apps project will consist of deploying a cloud-based Itron DI App platform on existing meter and head-end infrastructure and piloting a set of apps across targeted groups of meters. Apps will be deployed on the Itron DI App platform and on groups of meters in a variety of geographic areas. The meter groups will be identified based on considerations such as feeder characteristics, system conditions, and operational use cases which are representative of a range of potential scenarios within the NS Power operating environment. These apps may integrate with relevant enterprise systems (e.g., ADMS, outage management, and analytics platforms) as appropriate, depending on the specific use case being evaluated.

This project will install apps which are intended to support:

- grid model accuracy and connectivity validation,
- safety related signal detection, and
- distribution grid situational awareness.

The project is structured as an innovation and validation effort, not an enterprise-wide deployment. While these apps have demonstrated improved situational awareness and more accurate analysis and advanced event detection in other utility environments, deployment of these applications on a subset of meters will allow the Company to test these technologies to determine their efficacy within the NS Power context before deploying at scale. This includes assessing whether the applications provide actionable insights, integrate effectively with existing systems, and deliver sufficient operational value to support broader deployment decisions.

The project does not assume or commit to full deployment of all applications, and any future scalability decisions will be made based on data and learnings from the pilot.

The Itron DI App platform and applications operate independently from meter metrology and billing functionality. All deployed applications will comply with applicable Measurement Canada requirements.

NS Power has received federal government funding support for this Project, offsetting part of the cost of the Project for customers.

Summary of Related CIs +/- 2 years:

Pursuant to Section 11.2 of the CEJC, related CIs for General Plant projects include “work completed on the same asset (application, building, etc.).”

- No other projects in 2024 ,2025, 2026, 2027 or 2028

Depreciation Class: 7800 Computer Software

Estimated Life of the Asset: 10 years

JUSTIFICATION:

Justification Criteria: Innovation

Sub Criteria: Reliability and grid stability

Why do this project?

Itron DI apps implemented in other utility jurisdictions have demonstrated benefits such as improved grid visibility, enhanced detection of abnormal conditions, and improved operational decision-making across areas such as asset management, system configuration, and reliability-related planning and response. For example, utilities such as CenterPoint Energy, Pacific Gas & Electric, Xcel Energy, Tampa Electric, and LUMA Energy have piloted or deployed distributed intelligence applications. This project will allow NS Power to evaluate the efficacy of these technologies in improving reliability, grid stability and customer experience before potentially deploying at scale.

Through practical application of these apps, this project will examine the extent to which enhanced grid edge data can improve Operational Technology (GIS) model accuracy in meter-to-transformer, phase, and feeder relationships, increase connectivity understanding and asset visibility, and support longer-term reliability, power quality, and distribution system planning outcomes.

DI apps will be installed on meter groups in a variety of geographic areas to test the effectiveness of the DI apps to:

- Improve grid model accuracy and connectivity,
- Increase visibility into safety related conditions (such as meter bypass detection, advanced temperature monitoring, and transformer monitoring),
- Create operational efficiencies through the use of near-real-time data, and
- Provide data to inform advancement of grid modernization capabilities.

Why do this project now?

Proactive and timely improvement of grid model accuracy is foundational to support continued reliable system operation and effective system planning as the distribution system becomes increasingly complex. Testing DI capabilities to understand how they may support greater visibility and more informed verification of grid conditions within the NS Power environment is an important step toward understanding how these technologies may improve system reliability and customer experience.

DI application technologies, including those provided through the Itron DI App platform, have advanced sufficiently to support evaluation and deployment within utility operating environments. Industry experience indicates that DI technologies can support reliability, operational awareness, and grid stability. Once the Itron DI App platform is installed, DI apps will be installed both on head-end infrastructure and on meters across various locations and tested.

NS Power currently has an opportunity to pilot DI technologies through a partnership with NRCan. NS Power has secured federal funding for approximately 47 percent of the project costs. This opportunity allows NS Power to proactively test DI technologies while reducing the overall cost of the project. The agreement with NRCan dictates that funding is contingent on receipt of written confirmation of regulatory approval issued by the Nova Scotia Energy and Review Board on or before March 31, 2027 and that the project must be completed and its benefits realized by March 31, 2028.

Why do this project this way?

The project focuses on deploying and evaluating selected distributed intelligence applications at the meter level, while the foundational DI Iron Apps Platform will be fully implemented to enable sustained operation and evaluation of the pilot. All technologies will be installed in accordance with NS Power's cyber security controls.

Each on-meter app will be tested on meter groups which will be selected based on safety and reliability risk, location, and the existing infrastructure in place.

Apps will be selected for testing based on their potential to provide:

- grid model accuracy and connectivity validation;
- safety related signal detection; and/or
- distribution grid situational awareness

At this stage, the following apps have been identified for potential testing based on the criteria above:

- Location Awareness: autonomously determines which phase, feeder and transformer meters are on using communication and data.
- Meter Bypass Detection: detects attempts to bypass the meter using high-resolution sampling of voltage and current data.
- Advanced Temperature Monitoring: uses high-resolution temperature readings and communication to detect meter socket problems before they create a safety hazard or interrupt service.
- EV Awareness: provides near-real-time disaggregation information for when an EV begins or stops charging
- Advanced Transformer Load & Voltage Monitoring: provides near-real time monitoring of distribution transformer load and voltage statistics.
- Feeder Visibility: Leverages the results of the Advanced Transformer Load & Voltage Monitoring apps to provide operational insights at the feeder level.
- Advanced Outage Analytics: Leverages data from multiple apps and the Head End System to provide power outage indication and scope, as well as an associated confidence factor.
- Operations Optimizer - Revenue Assurance: Leverages data from the Meter Bypass Detection App to prioritize meters for investigation and support revenue assurance.

The actual apps tested through the project are subject to change as the project advances. The detailed design phase of the project is scheduled to begin in Q3 2026. The final list of DI apps to be tested will be confirmed during this phase as well as the locations where they will be installed, and the detailed criteria and metrics which will be used to evaluate the project. This application is being submitted prior to completion of the design phase in order to align with the timelines associated with the NRCAN funding.

NS Power will use data and learnings from this pilot project to determine whether DI apps lead to feasible long-term solutions and, if so, which DI apps will provide future customer value if deployed at scale.

This approach establishes a scalable foundation for future distributed intelligence capabilities, enabling NS Power to incrementally adopt additional applications, as appropriate, based on data and learnings from the pilot and evolving operational needs.

Contingency Statement

Contingency for this project has been determined using a combination of internal subject matter expert judgment (Project Managers, Business Analysts, Financial Analysts, and Cyber Security Professionals), current project definition, technology maturity, delivery risk, and the non-binding contingency guidelines. Consistent with the Decision Gate (DG) process described in the non-binding contingency guidelines, a 10% contingency has been applied. This project is in DG5. Risks intended to be covered by the contingency include integration complexity, firmware readiness, resource availability, potential schedule variability, and unforeseen technical challenges during pilot implementation and integration activities.

Reason for Variance

The increase of \$528,434 from the 2026 ACE Plan subsequent submittal estimate of \$2,637,356 is due to refinements in the implementation approach and updated vendor cost inputs following additional planning discussions. Further discussions with the vendor have resulted in a more detailed and complete cost structure, including infrastructure (hosting), software, and professional services components, as well as vendor-managed, cloud-hosted platform components. Updated internal labour assumptions and vendor cost estimates have been incorporated to reflect this improved understanding.

Note 1: The labour figures noted above are an average of salaries across a variety of jobs within similar classifications including fringe, and are used solely for budgeting purposes.

Note 2: Small differences in totals are attributable to rounding.



Instructions: Select option in Column B.
Columns C through G will auto-populate.

Document No: XXX-XX-XXXX-XXXX

Project Cost Estimate Input Checklist and Maturity Matrix						
Equipment Replacement	Required fields:	Estimate Classification				
Project Name: IT - Distributed Intelligence Apps	Started or Preliminary	Class 5	Class 4	Class 3	Class 2	Class 1
Maturity Level of Project Definition Deliverables	Defined or Complete					
General Project Data						
A. Scope						
Project Scope of Work Description	Defined (D)	P	P	D	D	D
B. Capacity						
Not Applicable						
C. Project Location						
Hardware (server, network infrastructure)	Defined (D)	P	P	D	D	D
D. Requirements						
Codes and/or Standards	Defined (D)	NR	P	D	D	D
Legislative Requirements	Not Applicable (NA)	NR				
E. Technology Selection						
Design/Technology	Defined (D)	NR	P	D	D	D
F. Strategy						
Contracting/Sourcing	Defined (D)	NR	P	D	D	D
Escalation	Defined (D)	NR	P	D	D	D
G. Planning						
Logistics Plan	Not Applicable (NA)					
Integrated Project Plan	Defined (D)	NR	P	D	D	D
Project Code of Accounts	Defined (D)	NR	P	D	D	D
Project Schedule	Defined (D)	NR	P	D	D	D
Regulatory Approval & Permitting	Defined (D)	NR	P	D	D	D
Risk Register	Defined (D)	NR	P	D	D	D
Stakeholder Consultation/Engagement/Management Plan	Defined (D)	NR	P	D	D	D
Work Breakdown Structure (WBS)	Preliminary (P)	NR	P			
Start-up & Commissioning Plan	Preliminary (P)	NR	P	P/D		
Technical Deliverables (Specifications and/or Drawings)						
Network Infrastructure	Not Applicable (NA)					
Data Architecture	Preliminary (P)	P	P			
Security Assessment	Preliminary (P)	NR	P			
Privacy Impact Assessment	Not Applicable (NA)	NR				
Information Systems/Telecommunication Drawings	Not Applicable (NA)	NR				
Total Responses	Total # Deliverables for this Project	3	16	13	12	12
Percentage	% Defined/Complete towards Class Estimate	100%	100%	81%	75%	75%

Comments:

While AACE does not provide guidelines for the Information Technology (IT) projects, industry best practices such as PMI's Practice Standard for Project Estimating recommend IT Projects follow a Risk base work cycle like a Decision Gate (DG) process where the project scope, schedule, and budget are continuously defined over a series of decision gates. This project is being filed at DG5 with a contingency level consistent with that stage of the project. The maturity checklist completed above demonstrates that the majority of the project deliverables have been defined and that the relevant technical deliverables have been started. This project measured 81% of deliverables defined or completed for a Class 3 estimate.

Legend:

The maturity level is an approximation of the completion status of the deliverable. The completion is indicated by the following descriptors:

General Project Data:

- Not Required (NR): May not be required for all estimates of the specified class, but specific project estimates may require at least preliminary development.
- Preliminary (P): Project definition has begun and progressed to at least an intermediate level of completion. Review and approvals for its current status has occurred.
- Defined (D): Project definition is advanced, and reviews have been conducted. Development may be near completion with the exception of final approvals.

Technical Deliverables:

- Not Required (NR): Deliverable may not be required for all estimates of the specified class, but specific project estimates may require at least preliminary development.
- Started (S): Work on the deliverable has begun. Development is typically limited to sketches, rough outlines, or similar levels of early completion.
- Preliminary (P): Work on the deliverable is advanced. Interim, cross-functional reviews have usually been conducted. Development may be near completion except for final reviews and approvals.
- Complete (C): The deliverable has been reviewed and approved as appropriate.

Note: This checklist is intended to be used for IT/OT projects. In lieu of specific AACE guidelines for these types of projects, this checklist was developed by NS Power following the principles of the guidelines to demonstrate confidence in the cost estimate maturity.

T203 - APPENDIX A - TCO PROJECT FINANCIALS - IT - Distributed Intelligence Apps

Project costs must be detailed by major project phase and would normally align with a potential stage-gate (i.e. preliminary design, initial scoping, requirements, etc.). Within each phase, major cost items must be described separately as appropriate to the type and scale of the
The tables may be expanded to include additional phases if required and columns may also be added if it is necessary to include additional fiscal years.

Table A.1 - Project Costs (CAPEX or OPEX)

Project Costs (gross)	CAPEX	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Phase 1 - (describe)												
530050 Regular Labour	CAPEX	\$ 11,477	\$ 100,145	\$ 628,887	\$ 22,806	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
532500 Consulting	CAPEX					\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
532850 Application Software - License	CAPEX					\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
532850 Application Software - Hosting/set up	CAPEX					\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
532900 Comp Hardware & Op Software	CAPEX	\$ -	\$ -	\$ 50,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
535100 Other Goods and Services	CAPEX	\$ -	\$ -	\$ -	\$ 490,931	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
535700 Admin Overheads	CAPEX	\$ 6,479	\$ 56,200	\$ 352,925	\$ 12,799	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
605050 AFUDC Interest	CAPEX	\$ 1,019	\$ 10,330	\$ 75,799	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
536750 Capital Contributions	CAPEX	\$ (2,757)	\$ (172,810)	\$ (2,275,836)	\$ (298,597)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Costs (Sum Lines 1, 2, 3)		3,165,790	\$ 22,635	\$ 602,240	\$ 2,312,976	\$ 227,939	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Table A.2- Sustaining Operating Costs

Sustaining Operating Costs (gross)	OPEX	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Annual License & Hosting Costs	OPEX	\$ -	\$ -					\$ -	\$ -	\$ -	\$ -	\$ -
Consulting Annual Maintenance Costs	OPEX	\$ -	\$ -					\$ -	\$ -	\$ -	\$ -	\$ -
Labour	OPEX	\$ -	\$ -	\$ -	\$ 160,000	\$ 164,800	\$ 169,744	\$ -	\$ -	\$ -	\$ -	\$ -
Cost Recovery	OPEX	\$ -	\$ -	\$ (162,297)	\$ (143,450)							
Total Sustaining Operating Costs		\$ 2,715,968		\$ 319,928	\$ 629,686	\$ 1,039,289	\$ 727,066					

Table A.3 - Operating Savings to be Realized

Savings	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
(List and Specify)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(List and Specify)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(List and Specify)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(List and Specify)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
(List and Specify)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Savings											

Note to Authors: Table A.5 Lines 7 through 9 are populated automatically from Tables A.1 through A.3

Table A.4- TCO Financial Summary

TCO	Total	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Total Capital Costs (Line 4)	\$ 3,165,790	\$ 22,635	\$ 602,240	\$ 2,312,976	\$ 227,939							
Total Sustaining Operating Costs (Line 5)	\$ 2,715,968			\$ 319,928	\$ 629,686	\$ 1,039,289	\$ 727,066					
Total Operating Savings (Line 6)	\$ -											
Net TCO (Line 7+8)-Line 9)	\$ 5,881,759	\$ 22,635	\$ 602,240	\$ 2,632,904	\$ 857,625	\$ 1,039,289	\$ 727,066	\$ -	\$ -	\$ -	\$ -	\$ -
FTEs	Total	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Total FTEs Required - Implementation	-	-	-	-	-	-	-	-	-	-	-	-
Total FTEs Required - Ongoing	4.80	-	-	-	1.60	1.60	1.60	-	-	-	-	-
Current FTEs No Longer Required	-	-	-	-	-	-	-	-	-	-	-	-
Net FTE Requirement (Lines 15+16-17)	4.80				1.60	1.60	1.60					

REDACTED (CONFIDENTIAL INFORMATION REMOVED)

**CI C0068719 Confidential Attachment 1 has been removed
due to confidentiality.**